

Random Activation of Gene Expression (RAGE)

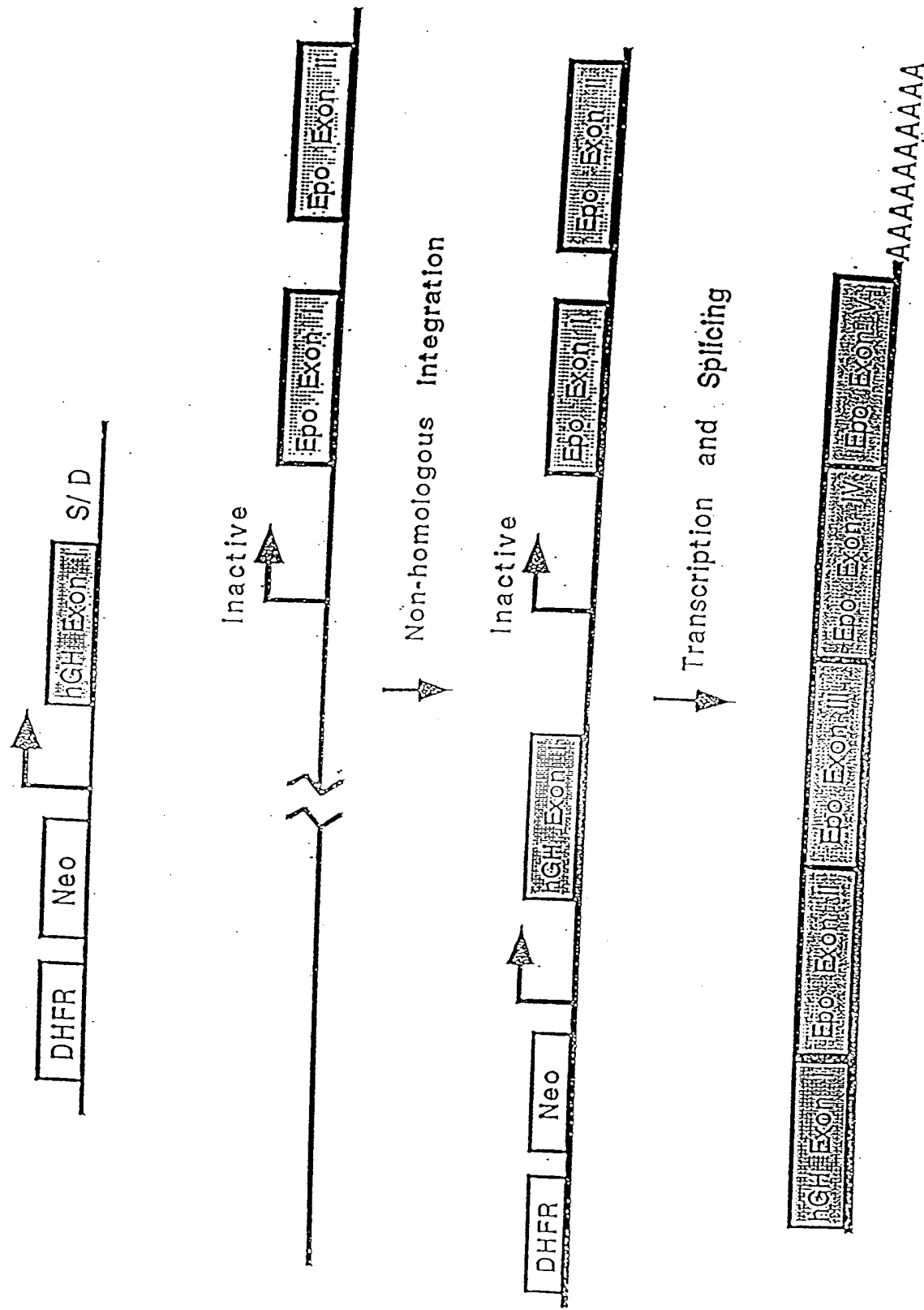
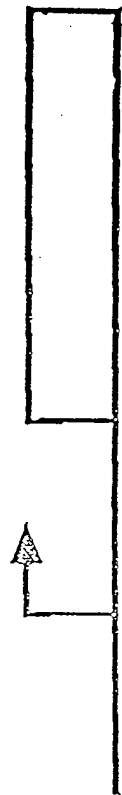


Figure 1

Activation Constructs without Translation Start Codons

Construct #



Untranslated

S/D Splice Donor

Fig. 2

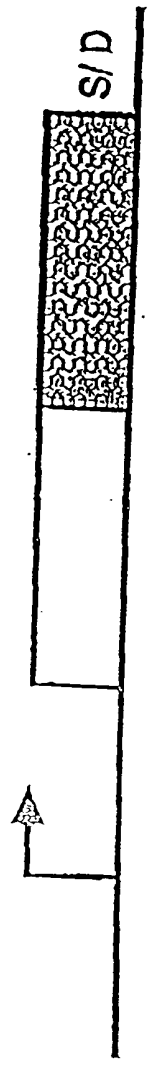
Construct #

009220-466ET550

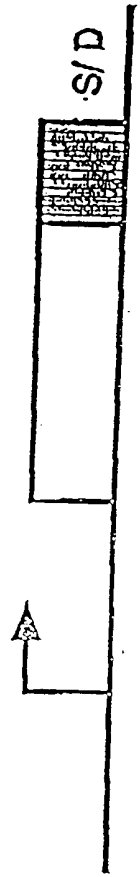
3-5



6-8



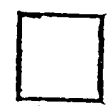
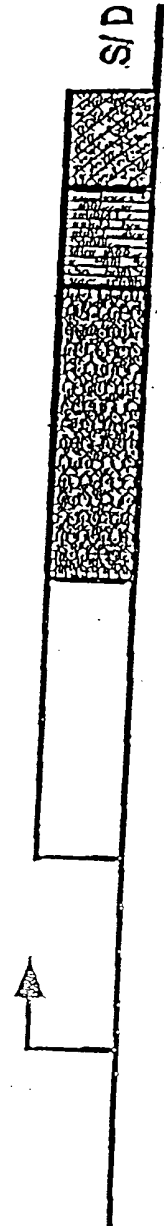
9-11



12-14



15-17



Untranslated



Translated



Secretion Signal Sequence



Protease Cleavage Site



Epitope Tag

S/D Splice Donor

Fig. 3

009220-6661560

pRIG-1

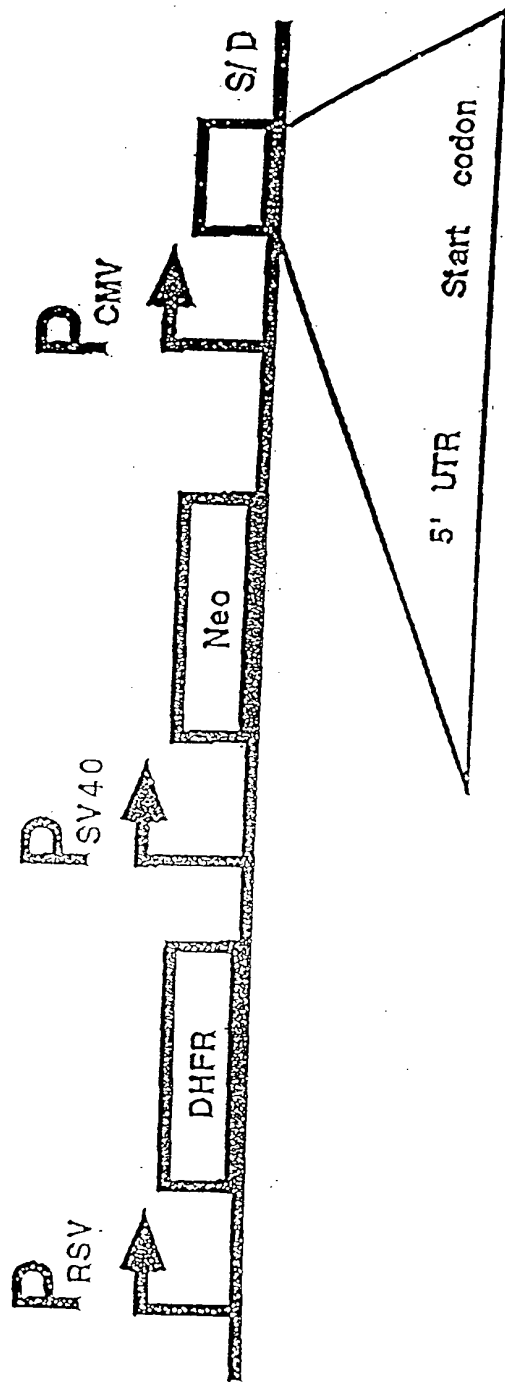


FIG. 4

09513997-022600

5'AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
AATATTGGCTATTGGCCATTGCATA
CGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACCG
CCATGTTGGCATTGATTATTGACT
AGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGT
TCCGCGTTACATAACTTACGGTAAA
TGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATGACGTCAATAATGACG
TATGTTCCCATAGTAACGCCAATAG
GGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGC
AGTACATCAAGTGTATCATATGCCA
AGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCC
AGTACATGACCTTACGGGACTTTCC
TACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTT
GGCAGTACACCAATGGGCGTGGAT
AGCGGTTTGACTCACGGGGATTTCCTCAAGTCTCCACCCCATGACGTCAATGGGAG
TTTGTTTTGGCACCAAAATCAACGG
GACTTTCCAAAATGTCGTAACAACTGCGATCGCCCGCCCGTTGACGCAAATGGG
CGGTAGGCGTGTACGGTGGGAGGTC
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TAGTTTATCACAGTTAAATTGCTAA
CGCAGTCAAGTGTCTTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCTT
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GTTCTTTTGCCTCCACCAAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTCAGAA
TCAAAAGAGGAAACCAACCCCTAA
GATGAGCTTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCTT
CCAAAGGTGCAGTCTCCAAAGAGA
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TCCTAGTTTTCAAATGAGTGATGAT
ATTGACGATATAAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTCA
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GATTCAAGAGAGGGTCTCAAAACCA
AAGATCTCCTGGACTTGTATCAACACAACCCTGACCTGTGAGGTAATGAATGGAA
CTGACCCCGAATTAAACCTGTATCA
AGATGGGAAACATCTAAACTTTCTCAGAGGGTCATCACACACAAGTGGACCACC
AGCCTGAGTGCAAAATTCAAGTGCA
CAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTGAGCCTGTCAGCTGTCCAG
AGAAAGGGATCCAGGTGAGTAGGGCC
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GGAGACCAATAGAACTGGGCTTGT
CGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCGGCC
GCGAATTCCAAGCTTGAGTATTCTA
TCGTGTACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCTGTGTGAA
ATTGTTATCCGCTCACAAATCCACA
CAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAG
CTAACTCACATTAATTGCGTTGCGCGATGCTTCCATTTTGTGAGGGTTAATGC-

Figure 5A

00513997-022600

TTCGAGAAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACAAGAAT
GCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAA
CCATTATAAGCTGCAATAAACA
AGTTAACAACAATTGCATTCATTTTATGTTTTAGGTTTCAGGTTTCAGGGGGAGATGTGG
GAGGTTTTTTAAAGCAAGTAAAACC
TCTACAAATGTGGTAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCGAAT
GGACGCGCCCTGTAGCGGCGCATT
AGCGCGGCGGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGCCC
TAGCGCCCGCTCCTTTTCGCTTTCTTC
CCTTCCTTTCTCGCCACGTTTCGCGGGCTTTCCCCGTCAAGCTCTAAATCGGGGGC
TCCCTTTAGGGTTCCGATTTAGTGC
TTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTCACGTAGTGGG
CCATCGCCCTGATAGACGGTTTTC
GCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGG
AACAACACTCAACCCTATCTCGGTC
TATTCCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAAATGA
GCTGATTTAACAATAAATTTAACGC
GAATTTTAACAATAAATTTAACGCTTACAATTTTCGCCTGTGTACCTTCTGAGGCGG
AAAGAACCAGCTGTGGAATGTGTGT
CAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGC
ATGCATCTCAATTAGTCAGCAACCAG
GTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCT
CAATTAGTCAGCAACCATAGTCCCGC
CCCTAACTCCGCCCCTAATCCCGCCCCTAATCCGCCCAGTTCCGCCCATTCTCCGCC
CCAATGGCTGACTAATTTTTTTTATT
TATGCAGAGGCCGAGGCCGCTCGGCCTCTGAGCTATTCCAGAAGTAGTGAGGA
GGCTTTTTTGGAGGCCTAGGCTTTTG
CAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCACCA
TGATTGAACAAGATGGATTGCACGC
AGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTTCGGCTATGACTGGGCACAACAG
ACAATCGGCTGCTCTGATGCCGCCG
TGTTCCGGCTGTGAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCTGTC
CGGTGCCCTGAATGAACTGCAGGAC
GAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTG
CTCGACGTTGTCACTGAAGCGGGAAG
GGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCTATCTCACCTT
GCTCCTGCCGAGAAAGTATCCATCA
TGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGA
CCACCAAGCGAAACATCGCATCGAG
CGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAA
GAGCATCAGGGGCTCGCGCCAGCCGA
ACTGTTCCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTGAC
CCATGGCGATGCCTGCTTGCCGAATA
TCATGGTGGAAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGT
GGCGGACCGCTATCAGGACATAGCG
TTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTCC
TCGTGCTTTACGGTATCGCCGCTCC
CGATTGCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGGGA
CTCTGGGGTTTCGAAATGACCGACCAAGCGACGCCCAACCTGCCATCACGATGGC-

Figure 5B

009220 455E560

CGCAATAAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAAGA.
TCCGCGTA-
TGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGAC
ACCCGCCAACAC
CCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC
TGTGACCGTCTCCGGGAGCTGCATG
TGTGAGAGGTTTTACCGTCATCACCGAAACGCGGAGACGAAAGGGCCTCGTGA
TACGCCTATTTTTATAGGTTAATGT
CATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGC
GGAACCCCTATTTGTTTATTTTCT
AAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCA
ATAATATTGAAAAAGGAAGAGTATG
AGTATTCAACATTTCCGCTGTCGCCCTTATTCCCTTTTTTTCGGGCATTTTGCCTTCC.
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GGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACATCGA
ACTGGATCTCAACAGCGGTAAGATCC
TTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCT
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ATTGACGCCGGGCAAGAGCAACTCGGTGCGCCGCATACACTATTCTCAGAATGACT
TGGTTGAGTACTCACAGTCACAGA
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ATGAGTGATAACACTGCGGCCAACT
TACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACAT
GGGGGATCATGTAACCTCGCCTTGAT
CGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACG
ATGCCTGTAGCAATGGCAACAACGTT
GCGCAAACCTATTAACCTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATA
GACTGGATGGAGGCGGATAAAGTTG
CAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATC
TGGAGCCGGTGAGCGTGGGTCTCGC
GGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCT
ACACGACGGGGAGTCAGGCAACTAT
GGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGG
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TCAAAGGATCTTCTTGAGATCCTTT
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GTTTGTGTTGCCGGATCAAGAGCTAC
CAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGT
CCTTCTAGTGTAGCCGTAGTTAGGC
CACCATTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGT
TACCAGTGGCTGCTGCCAGTGGCGA
TAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAG
CGGTCGGGCTGAACGGGGGGTTCTG
GCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGC
GTGAGCTATGAGAAAGCGCCACGCTT
CCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGG-

Figure 5C

AGAGCGCACGAGGGAGGTTCCAGGGGGAAACGCCCTGGTATCTTTATAGTCCTGTC
GGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTGTGATGCTCGTCAGGGG
GGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTACGGTTCCTGGCCTT
TTGCTGGCCTTTTGCTCACATGGCT
CGAC3'

009220 28651560

Figure 5D

00513997.022600

5'AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
AATATTGGCTATTGGCCATTGCAT
ACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACC
GCCATGTTGGCATTGATTATTGAC
TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAG
TTCCGCGTTACATAACTTACGGTAA
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GTATGTTCCCATAGTAACGCCAATA
GGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGG
CAGTACATCAAGTGTATCATATGCC
AAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCC
CAGTACATGACCTTACGGGACTTTC
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TTGGCAGTACACCAATGGGCGTGGA
TAGCGGTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATTGACGTCAATGGGA
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CAGCCTGAGTGCAAAATTCAAGTGC
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CCGCGAATTCCAAGCTTGAGTATTC
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AATTGTTATCCGCTCACAATTCCA
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AGCTAACTCACATTAATTGCGTTGCG
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GATGAGTTTGGACAAACCACAACAAGAATGCAGTGAAAAAATGCTTTATTTGT-

Figure 6A

0054399-00000

GAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAA
CAAGTTAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGATGT
GGGAGGTTTTTTAAAGCAAGTAAAA
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TAAGCGCGGCGGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGC
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TCCCTTCCCTTTCTCGCCACGTTTCGCGGGCTTTCCCCGTCAAGCTCTAAATCGGGG
GCTCCCTTTAGGGTTCCGATTTAGT
GCTTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTACGTTAGTG
GGCCATCGCCCTGATAGACGGTTTT
TCGCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTG
GAACAACACTCAACCCTATCTCGG
TCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAAAT
GAGCTGATTTAACAATAATTTAAC
GCGAATTTTAACAATAATTTAACGCTTACAATTTTCGCTGTGTACCTTCTGAGGC
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GTCAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAA
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AGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCAT
CTCAATTAGTCAGCAACCATAGTCCC
GCCCCTAACTCCGCCCATCCCGCCCCCTAACTCCGCCCAGTTCCGCCCATTTCTCCG
CCCCATGGCTGACTAATTTTTTTTA
TTTATGCAGAGGCCGAGGCCGCTCGGCCCTCTGAGCTATTCCAGAAGTAGTGAGG
AGGCTTTTTTTGGAGGCCTAGGCTTT
TGCAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCAC
CATGATTGAACAAGATGGATTGCAC
GCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAAC
AGACAATCGGCTGCTCTGATGCCGC
CGTGTTCGGCTGTGACGCGAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCTG
TCCGGTGCCCTGAATGAACTGCAGG
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TTGCTCCTGCCGAGAAAGTATCCAT
CATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTG
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GAACTGTTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTG
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TATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTGGCCGGCTGGGT
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GACTCTGGGGTTTCGAAATGACCGAC
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TTACATCTGTGTGTTGGTTTTTTGT
GTGAAGATCCGCGTATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGT
TAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCT-

Figure 6B

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TGTCCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCA
TGTCAGAGGTTTTTACCGTCATCACCGAAACGCGGAGACGAAAGGGCCTCGT
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GTCATGATAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGC
GCGGAACCCCTATTTGTTTTATTTTT
CTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTT
CAATAATATTGAAAAAGGAAGAGTA
TGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTT
CCTGTTTTTGCTCACCCAGAAACG
CTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACATC
GAACTGGATCTCAACAGCGGTAAGAT
CCTTGAGAGTTTTGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTT
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CTTGGTTGAGTACTACCAGTCACA
GAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAA
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GGAAACGCCTGGTATCTTTATAGTCCTGTGCGGTTTTGCCACCTCTGACTTGAGC
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CTTTGCTGGCCTTTTGCTCACATGG
CTCGAC3'

Figure 6C

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5'AGATCTTCAATATTGGGCAATTAGCCATATTATTCATTGGTTATATAGCATAAATC
AATATTGGCTATTGGCCATTGCAT
ACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACC
GCCATGTTGGCATTGATTATTGAC
TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAG
TTCCGCGTTACATAACTTACGGTAA
ATGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTGACGTCAATAATGAC
GTATGTTCCCATAGTAACGCCAATA
GGGACTTTCCATTGACGTCAATGGGTGGAGTATTACGGTAAACTGCCCACTTGG
CAGTACATCAAGTGTATCATATGCC
AAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCC
CAGTACATGACCTTACGGGACTTTC
CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT
TTGGCAGTACACCAATGGGCGTGGA
TAGCGGTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATTGACGTCAATGGGA
GTTTGTGTTTGGCACCAAAATCAACG
GGACTTTCCAAAATGTGCTAACAACTGCGATCGCCCGCCCCGTTGACGCAAATGG
GCGGTAGGCGTGTACGGTGGGAGGT
CTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGAAGCTTTATTGCG
GTAGTTTATCACAGTTAAATTGCTA
ACGCAGTCAGTGCTTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCT
TAATTAACCTCCACCAGTCTCACTTC
AGTTCCTTTTGCCTCCACCAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTCAGA
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AGATGAGCTTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCT
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AAAGATCTCCTGGACTTGTATCAACACAACCCTGACCTGTGAGGTAATGAATGGA
ACTGACCCCGAATTAAACCTGTATC
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GAGAAAGGGATCCACAGGTGAGTAGG
GCCCGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTT
TAAGGAGACCAATAGAACTGGGCT
TGTCGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCG
GCCGCGAATTCCAAGCTTGAGTATT
CTATCGTGTACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCTGTGTG
AAATTGTTATCCGCTCACAATTCC
ACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGT
GAGCTAACTCACTTAATTGCGTTGC
GCGATGCTTCCATTTTGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACAT
TGATGAGTTTGGACAAACCACAACA AGAATGCAGTGAAAAAATGC-

Figure 7A

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TTTATTGTGAAATTGTGATG
CTATTGCTTTATTTGTAACCATTATAAGCTGCAATAA
ACAAGTTAACAACAACAATTGCATTATTTTATGTTTCAGGTTTCAGGGGGAGATG
TGGGAGGTTTTTTAAAGCAAGTAAA
ACCTCTACAAATGTGGTAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCG
AATGGACGCGCCCTGTAGCGGCGCA
TTAAGCGCGGCGGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGC
CCTAGCGCCCGCTCCITTCGCTTC
TTCCCTTCCTTTCTCGCCACGTTTCGCCGGCTTTCCCGTCAAGCTCTAAATCGGGG
GCTCECTTTAGGGTTCCGATTTAG
TGCTTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTCACGTAGT
GGGCCATCGCCCTGATAGACGGTTT
TTCGCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAACT
GGAACAACACTCAACCCTATGTCG
GTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAA
TGAGCTGATTTAACAATAATTTAA
CGCGAATTTTAACAAAATATTAACGCTTACAATTTTCGCCTGTGTACCTTCTGAGG
CGGAAAGAACCAGCTGTGGAATGTG
TGTCAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAA
AGCATGCATCTCAATTAGTCAGCAAC
CAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCA
TCTCAATTAGTCAGCAACCATAGTCC
CGCCCTAACTCCGCCCATCCCGCCCTAACTCCGCCAGTTCCGCCATTCTCC
GCCCATGGCTGACTAATTTTTTT
ATTTATGCAGAGGCCGAGGCCGCTCGGCCTCTGAGCTATTCCAGAAGTAGTGAG
GAGGCTTTTTTGGAGGCCTAGGCTT
TGTCAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCA
CCATGATTGAACAAGATGGATTGCA
CGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCCGGCTATGACTGGGCACAA
CAGACAATCGGCTGCTCTGATGCCG
CCGTGTTCCGGCTGTCAGCGCAGGGGCGCCGGTTCTTTTTGTCAAGACCGACCT
GTCCGGTGCCCTGAATGAACTGCAG
GACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCTTGCGCAGCT
GTGCTCGACGTTGTCACTGAAGCGGG
AAGGGAAGTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCAC
CTTGCTCCTGCCGAGAAAGTATCCA
TCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCATT
CGACCACCAAGCGAAACATCGCATC
GAGCGAGCACGTAATCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGAC
GAAGAGCATCAGGGGCTCGCGCCAGC
CGAACTGTTCCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGT
GACCCATGGCGATGCCTGCTTGCCGA
ATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTGGCCGGCTGGG
TGTGGCGGACCGCTATCAGGACATA
GCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCT
TCTCGTGCTTTACGGTATCGCCG
TCCCGATTTCGACGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCG
GGACTCTGGGGTTCGAAATGACCGA
CCAAGCGACGCCCAACCTGCCATCAGATGGCCGCAATAAAATATCTTTATTTTC
ATTACATCTGTGTGTTGGTTTTTTGTGTGAAGATCCGCGTATGGTGCACTCTC-

Figure 7B

AGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAA
CACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACA
AGCTGTGACCGTCTCCGGGAGCTGC
ATGTGTCAGAGGTTTTACCGTCATCACCGAAACGCGCGAGACGAAAGGGCCTCG
TGATACGCCTATTTTTATAGTTAA
TGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTG
CGCGGAACCCCTATTTGTTTATTTT
TCTAAATACATTCAAATAATGTATCCGCTCATGAGACAATAACCCTGATAAATGCT
TCAATAATATTGAAAAAGGAAGAGT
ATGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCT
TCCTGTTTTTGCTCACCCAGAAAC
GCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACAT
CGAACTGGATCTCAACAGCGGTAAGA
TCCTTGAGAGTTTTCGCCCCGAAGAAGCTTTTCCAATGATGAGCACTTTTAAAGT
TCTGCTATGTGGCGCGGTATTATCC
CGTATTGACGCCGGGCAAGAGCAACTCGGTGCGCCGCATACACTATTCTCAGAATG
ACTTGGTTGAGTACTCACCACTCAC
AGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATA
ACCATGAGTGATAACACTGCGGCCA
ACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAA
CATGGGGGATCATGTAACTCGCCTT
GATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACC
ACGATGCCTGTAGCAATGGCAACAAC
GTTGCGCAAACTATTAAGTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTA
ATAGACTGGATGGAGGCGGATAAAG
TTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAA
ATCTGGAGCCGGTGAGCGTGGGTCT
CGCGGTATCATTGCAGCACTGGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTA
TCTACACGACGGGGAGTCAGGCAAC
TATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCAT
TGGTAACTGTCAGACCAAGTTTACT
CATATATACTTTAGATTGATTTAACTTCACTTTTAAATTTAAAGGATCTAGGTG
AAGATCCTTTTTGATAATCTCATG
ACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAA
AGATCAAAGGATCTTCTTGAGATCC
TTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCG
GTGGTTTGTGTCGGGATCAAGAGC
TACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAGCAGAGCGCAGATACCAAATAC
TGTCCTTCTAGTGTAGCCGTAGTTA
GGCCACCACTTCAAGAACTCTGTAGCACCCTACATACCTCGCTCTGCTAATCC
TGTTACCAGTGGCTGCTGCCAGTGG
CGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCG
CAGCGGTGCGGCTGAACGGGGGGTT
CGTGACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTAC
AGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGT
ATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGG
GGGAAACGCCTGGTATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAG
CGTCGATTTTTGTGATGCTCGTCAG
GGGGGCGGAGCCTATGGAACACGCCAGCAACGCGGCCCTTTTACGGTTCCTGG
CCTTTTGCTGGCCTTTTGCTCACATGGCTCGAC3'

Figure 7C

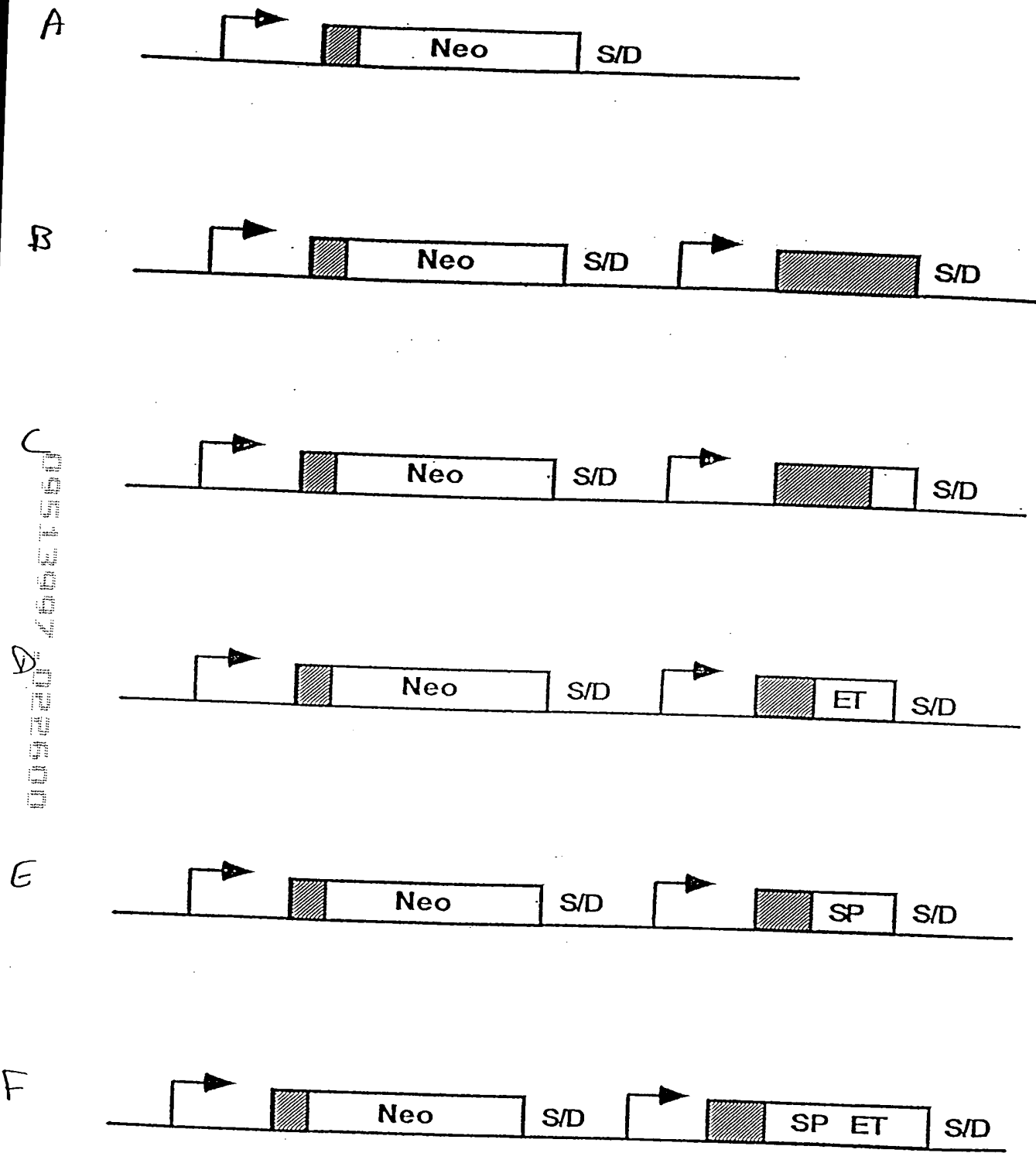


FIGURE 8

009220-666T560

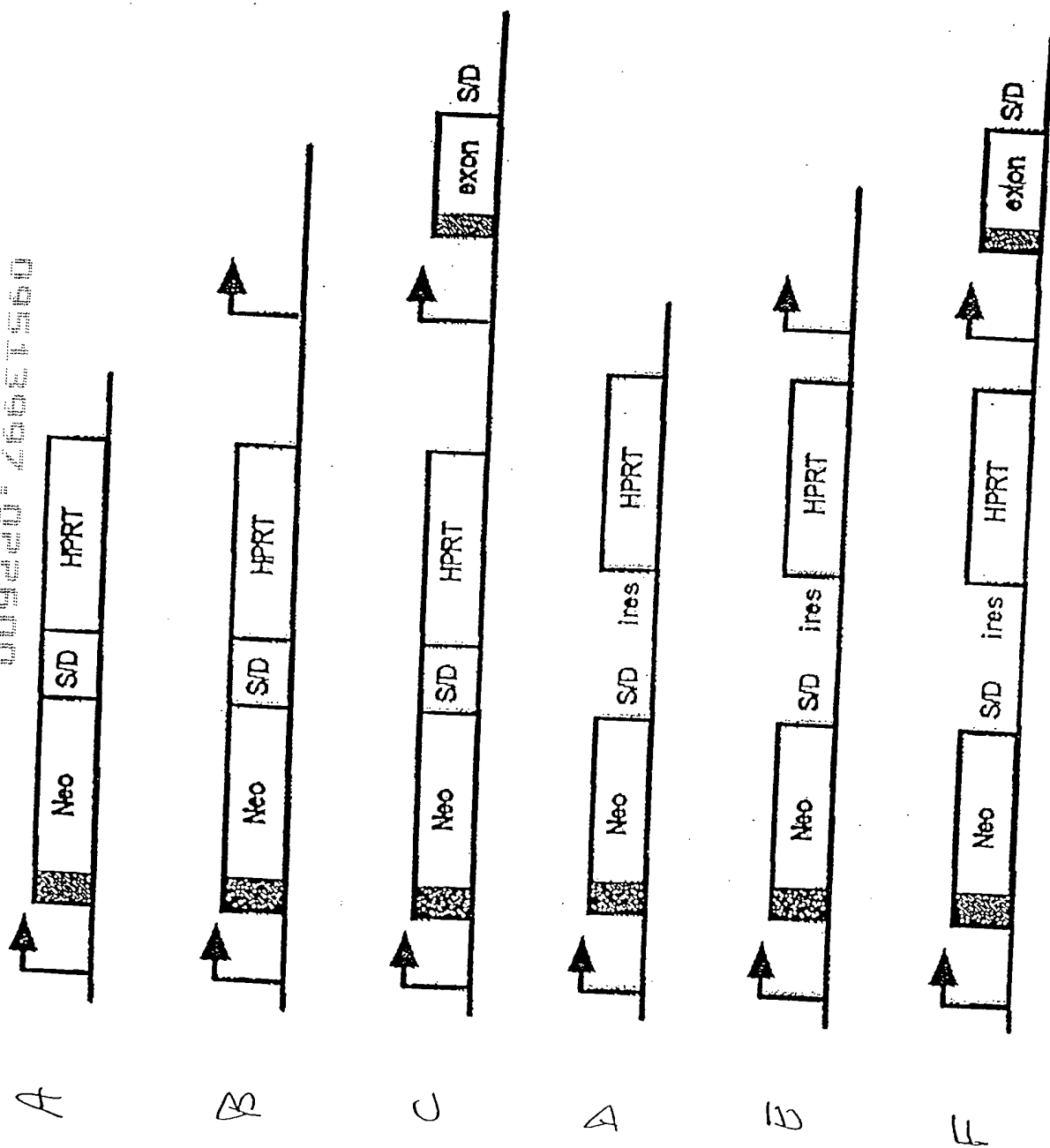


FIGURE 9

009220-666T560

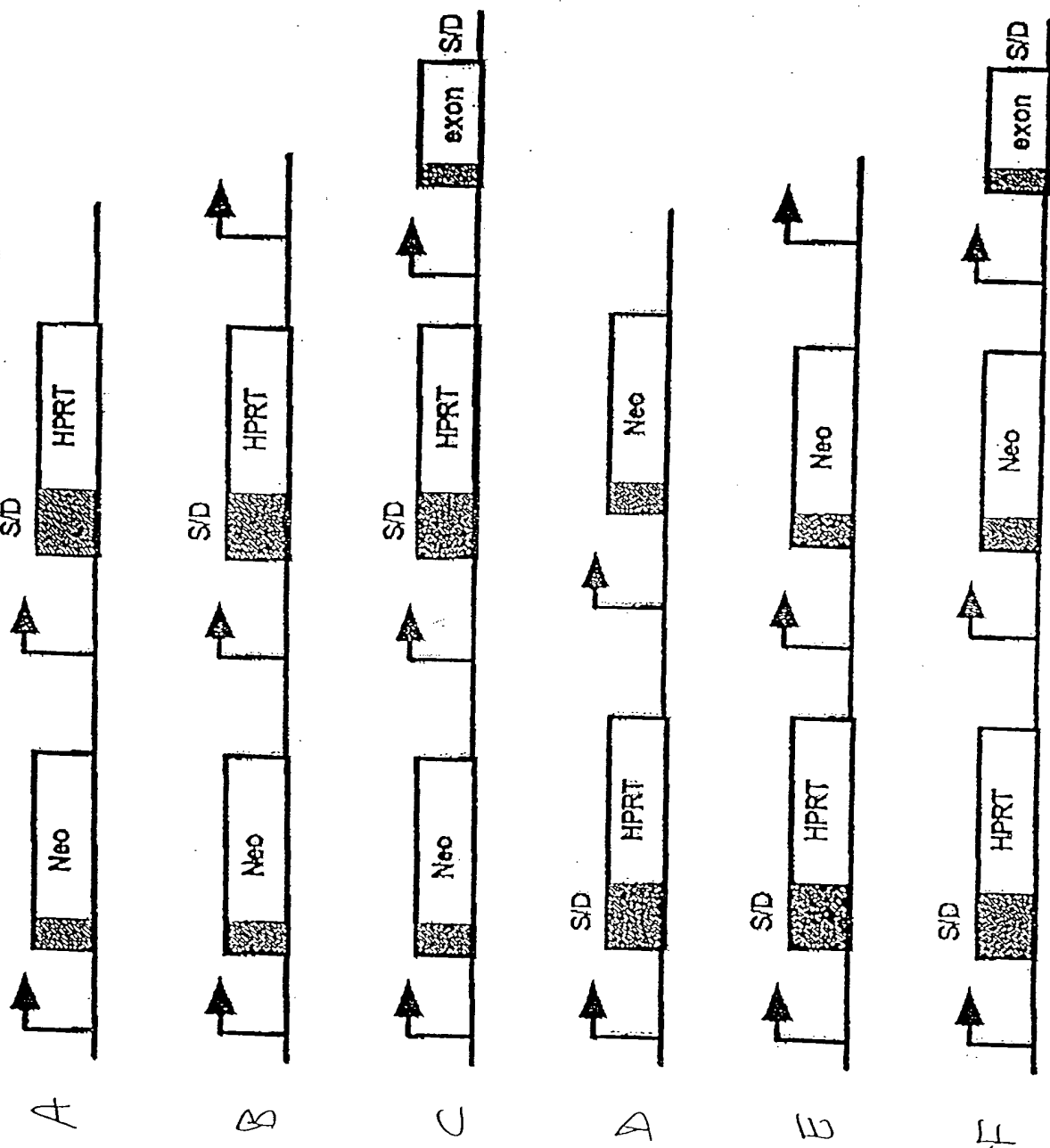


FIGURE 10

009220/666C560

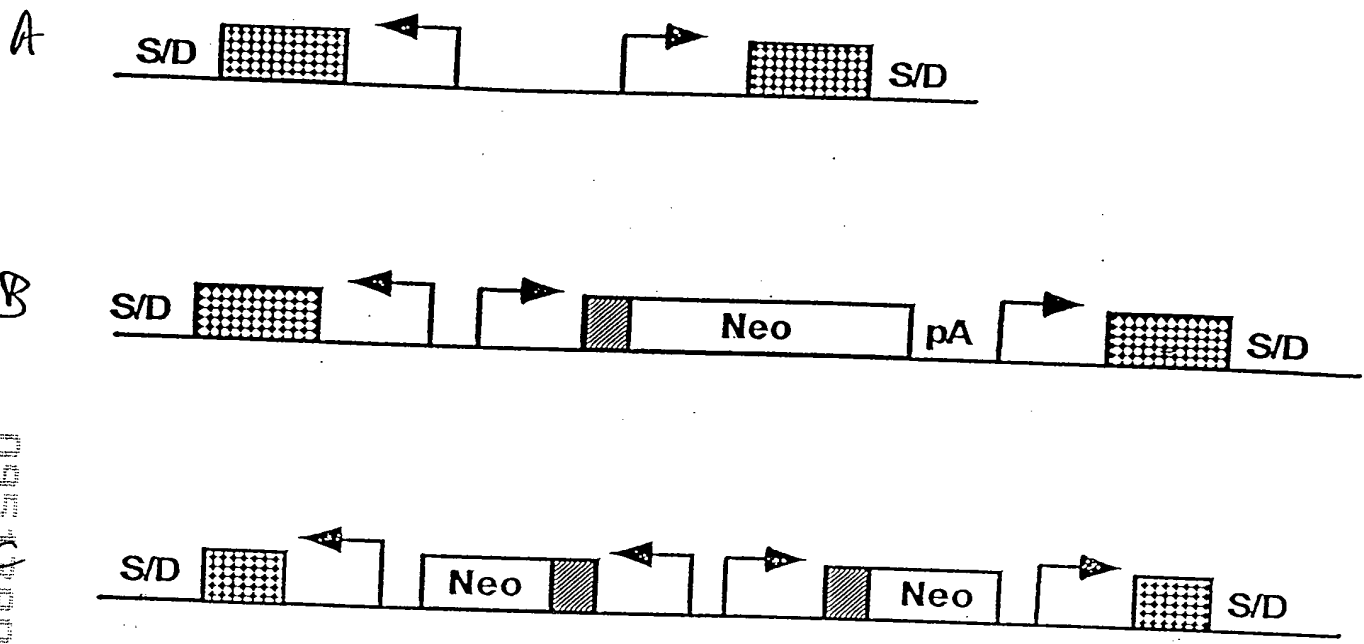


FIGURE 11

009220 7661560

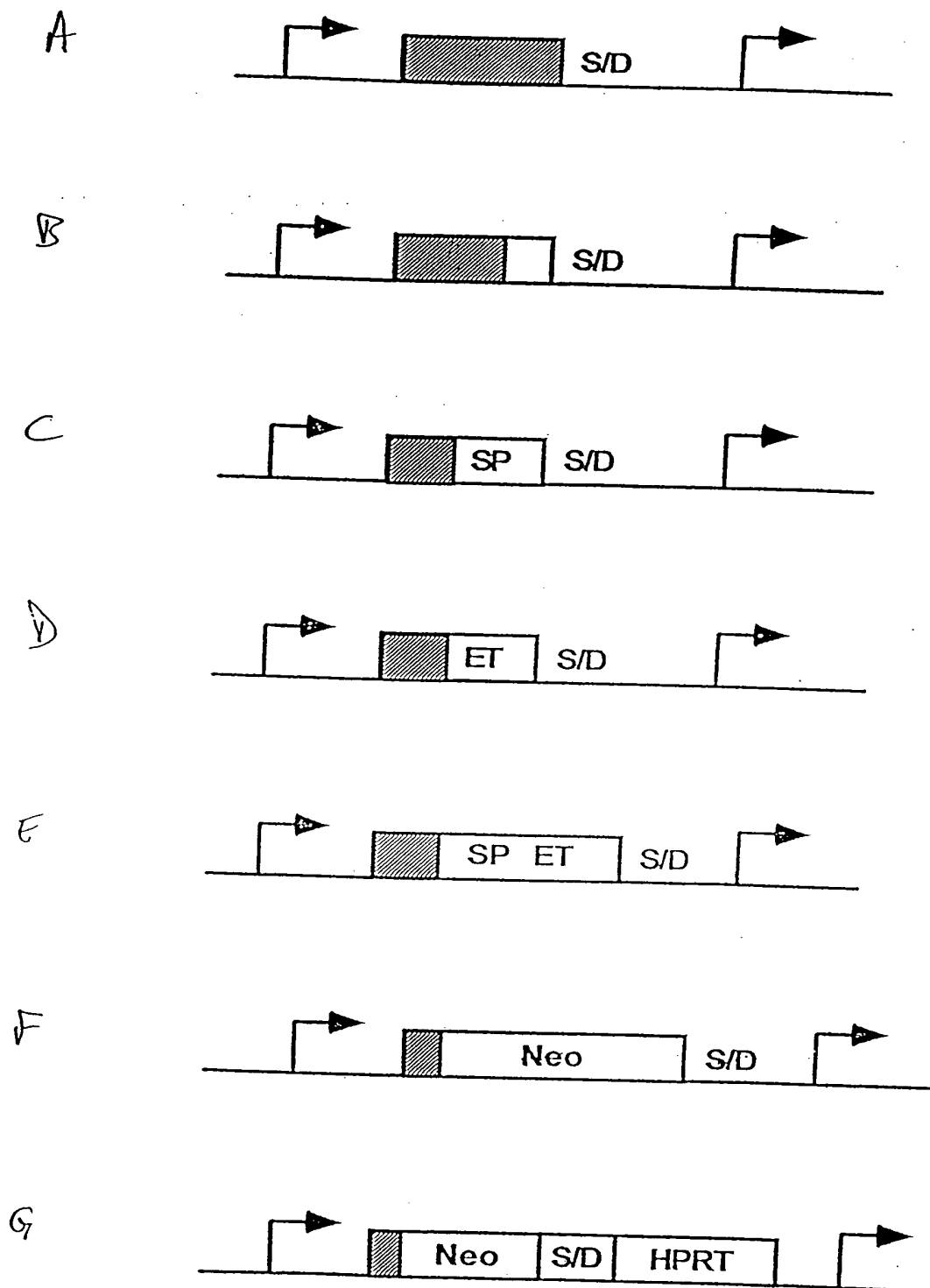


FIGURE 12

009220 266CT560

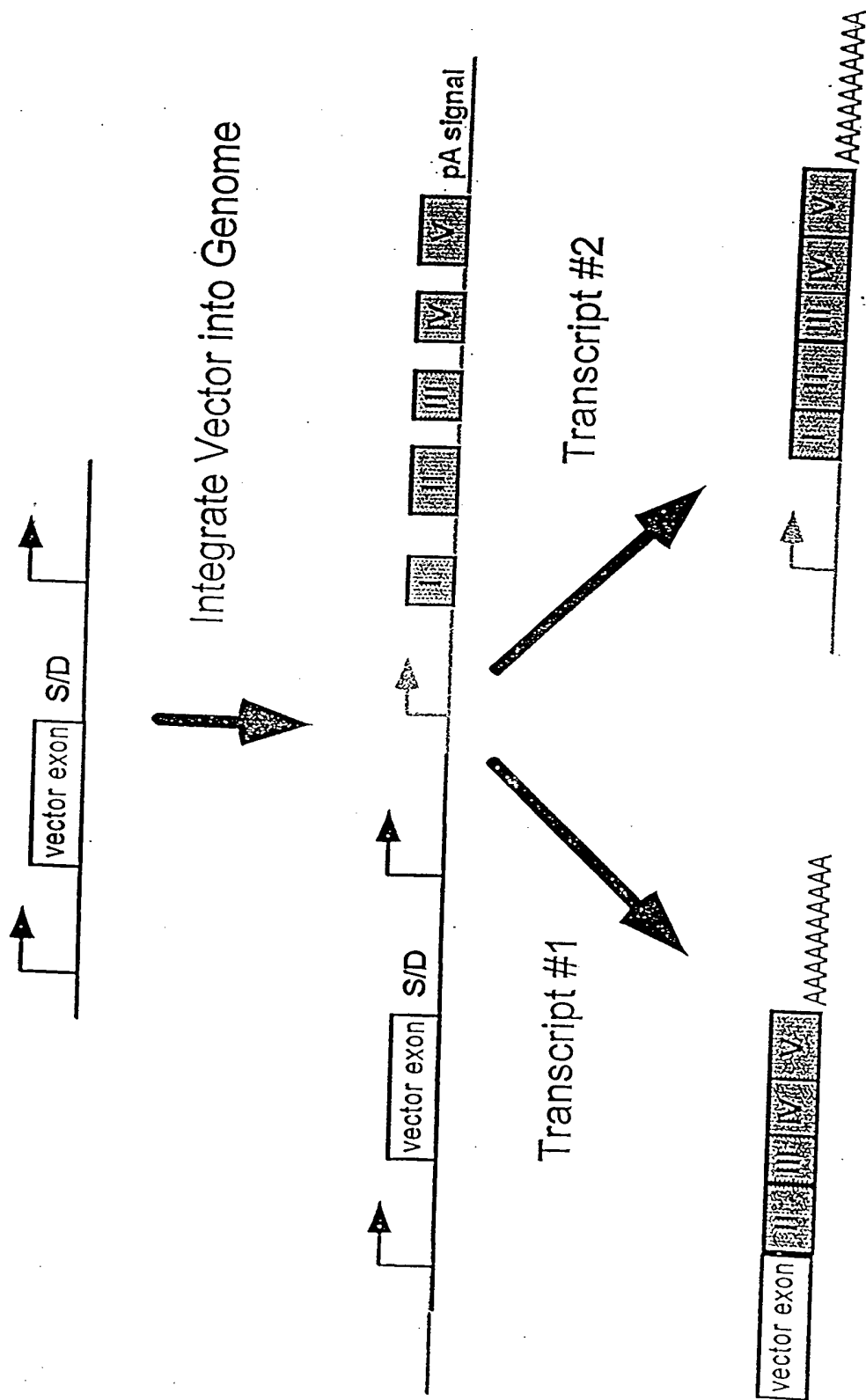


FIGURE 13

09513997-022600

AGATCTTCAATATTGGCCATTAGCCATATTATTCAATTGGTTATATAGCATAAATCAATATTGG
CTATTGGCCATTGCATAACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCA
ATATGACCGCCATGTTGGCATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCA
TTAGTTTCATAGCCCATATATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCCGCTGGC
TGACCGCCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCA
ATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGTA
CATCAAGTGTATCATATGCCAAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCCGCC
TGGCATTATGCCCAGTACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTA
GTCATCGCTATTACCATGGTGATGCGGTTTGGCAGTACACCAATGGGCGTGGATAGCGGTTT
GACTCACGGGGATTTCCAAAGTCTCCACCCATTGACGTCAATGGGAGTTTGTITTTGGCACCAA
AATCAACGGGACTTTCCAAAATGTGCTAACAACTGCGATCGCCCCGCCCGTTGACGCAAAATG
GGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGAT
CACTAGAAGCTTTATTGCGGTAGTTTATCACAGTTAAATTGCTAACCGCAGTCAGTGCTTCTGA
CACAACAGTCTCGAACTTAAGCTGCAAGTCTCTTA AatcaocatggctacaggtgagtactogGATCTA
GCGCTATATGCGTTGATGCAATTTCTATGCGCACCCGTTCTCGGAGCACTGTCCGACCGCTTT
GGCCGCCGCCAGTCTGCTCGCTTCGCTACTTGGAGCCACTATCGACTACGCGATCATGGCG
ACCACACCCGTCCTGTGGATCCTCTACGCCGGACGCATCGTGGCCGGCATCACCGGCGCCACA
GGTGCGGTTGCTGGCGCCTATATCGCCGACATCACCGATGGGGAAGATCGGGCTCGGCACTTC
GGGCTCATGAGCGCTTGTTCGGCTCTCTTAAGGTAGCAGATCCTTGCTAGAGTCGACCAATT
CTCATGTTTGACAGCCTTATCATCGCAGATCCTGAGCTTGTATGGTGCACTCTCAGTACAATCT
GCTCTGCTGCCCATAGTTAAGCCAGTATCTGCTCCCTGCTTGTGTGTTGGAGGTCGCTGAGT
AGTGCGCGAGCAAAATTTAAGCTACAACAAGGCAAGGCTTGACCGACAATTGCATGAAGAAT
CTGCTTAGGGTTAGGCGTTTTCGCTGCTTCGCGATGTACGGGCCAGATATACGCGTATCTGA
GGGACTAGGGTGTGTTTAGGCGCCAGCGGGGCTTCGGTTGTACGCGGTTAGGAGTCCCTC
AGGATATAGTAGTTTCGCTTTTGCATAGGAGGGGGAATGTAGTCTTATGCAATACACTTGT
AGTCTTGCAACATGGTAACGATGAGTTAGCAACATGCCTTACAAGGAGAGAAAAAGCACCGT
GCATGCCGATTGGTGGAAGTAAGGTGGTACGATCGTGCCTTATTAGGAAGGCAACAGACAGG
TCTGACATGGATTGGACGAACCACTGAATTCGCAATTGCAGAGATAATTGTATTTAAGTGCCT
AGCTCGATACAATAAACGCCATTTGACCATTACCACATTGGTGTGCACCTCCAAGCTGGGTA
CCAGCTGCTAGCCTCGAGACGCGTGATTTCCTTCGAAGCTTgtcatggttggttcgctaaactgcacgtcgtgtgtc
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tgagaagaatgattaatCGATCTTAAGTTAATCTTTCCCGGGGGTACCGTCGACTGCGGCCGCGAAATTC
CAAGCTTGAGTATTCTATCGTGTACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCC
TGTGTGAAATTGTTATCCGCTCACAATTCACACAACATACGAGCCGGAAGCATAAAGTGTA
AAGCCTGGGGTGCCTAATGAGTGAGCTAACTCAGATTAATTGCGTTGCGCGATGCTTCCATTT
TGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACATTGATGAGTTTGGACAAACCACA
ACAAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTA
ACCATTAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTATTTATGTTTCAGGTT
CAGGGGAGATGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAAATCCG
ATAAGGATCGATTCCGGAGCCTGAATGGCGAATGGACGCGCCCTGTAGCGGCGCATTAAGCG
CGGCGGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGCCCTAGCGCCCGCTCC
TTTCGCTTTCTTCCCTTCTTCGCCACGTTCCGCCGCTTTCCCCGTCAAGCTCTAAATCGG
GGGCTCCCTTTAGGGTTCCGATTTAGTGCTTTACGGCACCTCGACCCCAAAAACTTGATTAG
GGTGATGGTTACGTAGTGGGCATCGCCCTGATAGACGGTTTTTCGCCCTTTGACGTTGGAG
TCCACGTTCTTTAATAGTGGACTCTTGTTCAAAACCTGGAACAACACTCAACCCTATCTCGGTC
TATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCTATTGGTTAAAAAATGAGCTGATTT
AACAAAAATTTAACGCGAATTTTAAACAAAATATTAACGCTTACAATTTTCGCCCTGTGTACCTTC
TGAGGCGGAAAGAACCAGCTGTGGAATGTGTGTAGGTTAGGGTGTGGAAAGTCCCCAGGCTC
CCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCAGGTGTGGAAAGT
CCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCATA-

FIGURE 14A

09513997 022600

GTCCCGCCCCCTAACTCCGCCCCATCCCGCCCCCTAACTCCGCCCCAGTTCCGCCCCATTCTCCGCCCC
ATGGCTGACTAATTTTTTTTATTTATGACAGAGGCGGAGGCGGCTCGGCTCTGAGCTATTCC
AGAAGTAGTGAGGAGGCTTTTTTGGAGGCGCTAGGCTTTTTGCAAAAAGCTTGATTCTTCTGACA
CAACAGTCTCGAACTTAAGGCTAGAGCCAACCATGATTGAACAAGATGGATTGCACGCAGGTT
CTCCGGCCGCTTGGGTGGAGAGGCTATTCCGGCTATGACTGGGCACAAACAGACAATCGGCTGC
TCTGATGCCCGCGTGTTCGGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGAC
CTGTCCGGTGCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCACGAC
GGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGGACTGGCTGCTATT
GGGCGAAGTGCCGGGGCAGGATCTCCTGTCTCATCTCACTTGTCTCTGCCGAGAAAGTATCCAT
CATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGACCAACCA
AGCGAAACATCGCATCGAGCGACGTAAGGCGGCTGGAAGCGGCTTGTGCGATCAGGATG
ATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCCGCCAGGCTCAAGGCGCGC
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GACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTC
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AGTCTCTCTGAGCGGGACTCTGGGGTTCGAAATGACCGACCAAGCGACGCCAACCTGCCAT
CACGATGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTTGTGTGGAAG
ATCCGCGTATGGTGCATCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGA
CAGCTGTGACCGTCTCCGGGAGCTGCATGTGTCAGAGGTTTTACCCGTCATCACCAGAACGC
GCGAGACGAAAGGGCCTCGTGATACGCTATTTTTATAGGTTAATGTCATGATAATAATGGTT
TCTTAGACGTCAGGTGGCACTTTTCGGGAAATGTGCGCGGAACCCCTATTTGTTTATTTTCT
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GAAAAAGGAAGAGTATGAGTATTCAACATTTCCGTGTGCGCCCTTATCCCTTTTTTGCGGCAT
TTTGCTTCTCTGTTTTTGTCTACCCAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATCAGT
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GCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTAT
CCCGTATTGACGCCGGGCAAGAGCAACTCGGTGCGCCGATACACTATTCTCAGAATGACTTGG
TTGAGTACTCACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGC
AGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCTGACAACGATCGGAGG
ACCGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACCTCGCCTTGATCGTTG
GGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACGATGCCTGTAGCAA
TGGCAACAACGTTGCGCAAACTATTAACCTGGCGAACTACTTACTCTAGCTTCCCGGCAACAA
TAATAGACTGGATGGAGGCGGATAAAGTTGAGGACCACTTCTGCGCTCGGCCCTTCCGGCT
GGCTGGTTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGCGGCTCTCGCGGTATCATTGCAGCA
CTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGAGTCAGGCAAC
TATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAAC
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GATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTCTGTT
CCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCG
CGTAATCTGCTGCTTGCAAAACAAAAAACCAACCGTACCAGCGGTGGTTTGTGCGGATCA
AGAGCTACCAACTCTTTTTCCGAAGGTAACCTGGCTTCAGCAGAGCGCAGATACCAAACTACTGT
CCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCCTACATACCT
CGCTCTGCTAATCCTGTTACCAAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCGGGTT
GGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCGGGCTGAACGGGGGGTTCGTGCA
CACAGCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGA
GAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCG
GAACAGGAGAGCGCAGAGGGAGCTTCCAGGGGGAAACGCCTGGTATCTTTATAGTCTGTGTC
GGGTTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTA
TGGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCTTGGCCTTTTGTGCGCTTTTGTCTCAC
ATGGCTCGAC

FIGURE 14B

09513997-0022600

GATCTTCAATATTGGCCATTAGCCATATTATTCAATTGGTTATATAGCATAAATCAATATTGGCT
ATTGGCCATTGCATACGTTGTATCTATATCATAATATGTACATTATATTGGCTCATGTCCAAT
ATGAACCGCCATTGTTGGCATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCAAT
AGTTCATAGCCATATATGGAGTTCCGCGTTACATAACTTACGGTAAATGGGCCGCTGGCTG
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TCAAGTGTATCATATGCCAAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCECGCCTG
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CCTATCTGGCCAGTTAGCAGTCGAAGAAAGAAGTTTAAAGAGAGCCGAAACAAGCGCTCATGA
GCCCCAAGTGGCGAGCCCCGATCTTCCCCATCGGTGATGTGCGCGATATAGGCGCCACGCAACC
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GTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCT
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GAAGATCCTTTGATCTTTTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGG
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AGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACC
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CCCCATGGCTGACTAATTTTTTTTATTTATGCAAGGCGCCGAGGCCGCTCGGCCCTCTGAGCTA
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GACACAACAGTCTCGAACTTAAGGCTAGAGCCACCATGATTGAACAAGATGGATTGCACGCA
GGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAACAGACAATCGG
CTGCTCTGATGCCGCCGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGAC
CGACCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCA
CGACGGGCGTTCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGACTGGCTG-

FIGURE 15A

CTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAAGTA
 TCCATCATGGCTGATGCAATGCGGGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGAC
 CACCAAGCGAAACATCGCATCGAGCGAGCACGTA CTGGATGGAAGCCGGTCTTGTCGATCA
 GGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCCGCCAGGCTCAAGG
 CGCGCATGCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCA
 TGGTGGAAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCT
 ATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGAC
 CGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTTCGCAGCGCATCGCCTTCTATCGCCTTC
 TTGACGAGGccaTTCTgatggaggtagCGGCCGCTAACCTGGTTGCTGACTAATTGAGATGCATGCTTT
 GCATACTTCTGCCTGCTGGGGAGCCTGGGGACTTTCCACACCCTAACTGACACACATTCCACA
 GCTGGTTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTAAAA
 TTCGCGTTAAATTTTTGTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAAATC
 CTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAACAAGAG
 TCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATG
 GCCAC

009220 4661560

FIGURE 15B

09513997-022600

GATCTTCAATATTGGCCATTAGCCATATTATTCAATTGGTTATATAGCATAAATCAATATTGGCT
ATTGGCCATTGCATACGTTGTATCTATACATAATATGTACATTTATATTGGCTCATGTCCAAT
ATGAOCGCCATGTTGGCATTGATTATTGACTAGTTATTAATAGTAATCAATTAACGGGGTTCATT
AGTTCATAGCCCATATATGGAGTTCCGCGTTACATAAATTACGGTAAATGGCCCGCTGGCTG
ACCGCCCAACGACCCCGCCCATTTGACGTCAATGAAGTATGTTCCCATAGTAACGCCAAT
AGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCACTTGGCAGTACA
TCAAGTGTATCATATGCCAAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCTG
GCATTATGCCAGTACATGACCTTACGGGACTTTCTACTTGGCAGTACATCTACGTATTAGT
CATCGCTATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATACGGGTTGA
CTCACGGGATTTCCAAGTCTCCACCCCATTTGACGTCAATGGGAGTTTGTGGCACCAAAAA
TCAACGGGACTTTCCAAAAATGTCGTAACAACTGCGATCGCCCGCCCGTTGAACCAATGGG
CGGTAGGCGGTACGGTGGGAGGTCTATATAAGCAGAGCTcgtttagtaacctCAGATCACTAGAA
GCTTTATTGCGGTAGTTTATCACAGTTAAATTGCTAACGCAGTCAGTGCTTCTGACACAACAG
TCTCGAACTTAAGCTGCGAGTACTCTTTAAatocaccatggctacagGTGAGTACTCGCTACCTTAAG
AGAGGCCATCTGGCCAGTTAGCAGTCGAAGAAAGATTAAAGAGAGCCGAAACAAGCGCT
CATGAGCCCCGAAGTGGCGAGCCCGATCTTCCCATCGGTGATGTGGCGATATAGGCGCCAG
CAACCGCACCTGTGGCGCCGGTGATGCCGCGCCAGATGCGTCCGGCGTAGAGGATCCACAGG
ACGGGTGTGGTCCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGAC
TGGGCGGCGGCCAAAGCGGTGCGACAGTGTCCGAGAACGGGTGCGCATAGAAATTGCATCA
ACGCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTGTGAGGCCATGTGAGCAAAAGGCC
AGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCC
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TACCGGATACCTGTCCGCTTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTACGCTGT
AGGTATCTCAGTTCGGTGTAGGTCTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTT
CAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGAC
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CGCTCTGCTGAAGCCAGTTACCTTCGGAAGAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAA
CCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGA
TCTCAAGAAAGATCCTTTGATCTTTTACGGGGTCTGACGCTCAGTGGAAACGAAAACTCACGT
TAAGGGATTTTGGTCAAGATTATCAAAAAAGGATCTTACCTAGATCCTTTTatcggtgtgaaataccg
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ACCATAGTCCCCGCCCTAACTCCGCCATCCCCGCCCTAACTCCGCCAGTTCCGCCCATCT
CCGCCCCATGGCTGACTAATTTTTTTTATTTATGCAGAGGCCGAGGCCGCTCGGCCTCTGAG
CTATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGCAAAAAGCTTGATTCT
TCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCACCATGATTGAACAAGATGGATTGCAC
GCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAAACAGACAAT
CGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTGAGCGCAGGGGCGCCCGGTTCTTTTGTCAA
GACCGACCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGTGGCTGG
CCACGACGGGCGTTCTTGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGAGATGG
CTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCTCATCTCACCTTGCTCCTGCCGAGAAA-

Figure 16A

GTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCOCCATTC
 GAACACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTGCGA
 TCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACCTGTTGCCAGGGCTCA
 AGGCGCGCATGCCGACGGCGAGGATCTCGTCTGACCCATGGCGATGECTGCTTGCCGAAT
 ATCATGGTGGAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGTGGCGGAC
 CGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGC
 TGACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTTCGCAGCGCATCGCCTTCTATCGC
 CTTCTTGACGAGGccaTTCTgctggatggCTacAGGTcgagccctggcgtcgtgattagtatgatgaaccaggittatgaacttgattta
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 ctataatgaatacttcagggtttgaatcatgtttgtcattagtgaactggaaaagcaaaatacaagcctaaGCGGCCGCTAACCTGGT
 TGCTGACTAATTGAGATGCATGCTTTGCATACTTCTGCCTGCTGGGGAGCCTGGGGACTTTCC
 ACACCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTCAGAAGGTACACAGGCGAAA
 TTGTAAGCGTTAATATTTTGTAAATTCGCGTTAAATTTTGTAAATCAGCTCATTTTTTAA
 CCAATAGGCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGGTGA
 GTGTTGTTCCAGTTTGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGG
 CGAAAAACCGTCTATCAGGGCGATGGCCAC

FIGURE 16B

009220 4667560

A



B



C



D



E



F



G

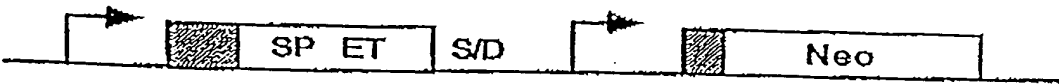


Figure 17

009220 465ET560

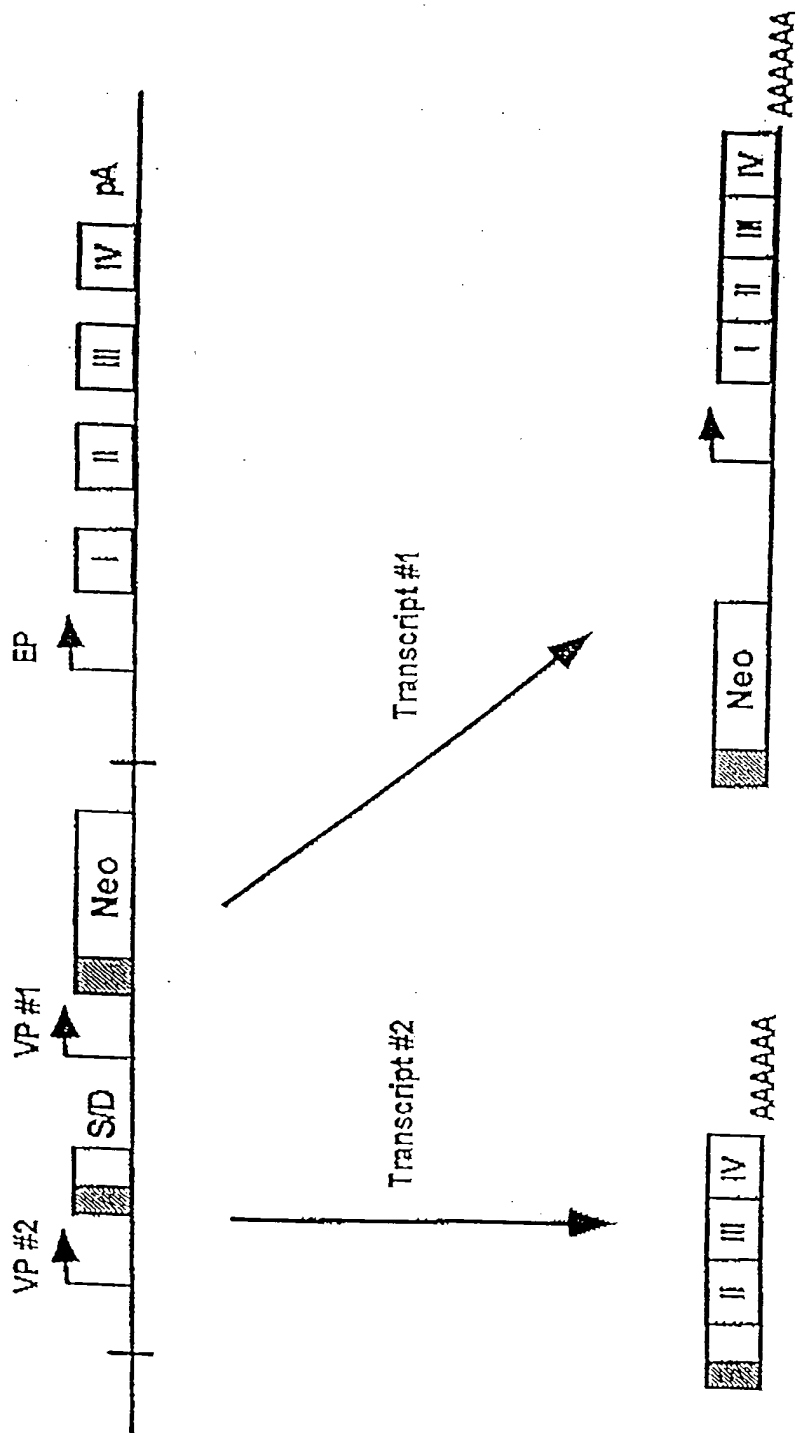
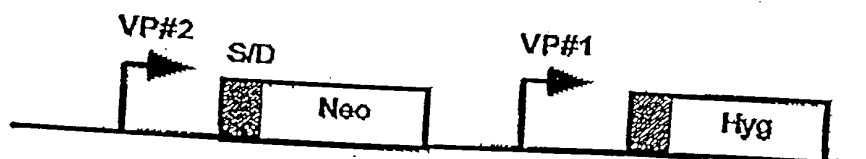


Figure 18



009220" 466ET550

Figure 19

009220-666T560

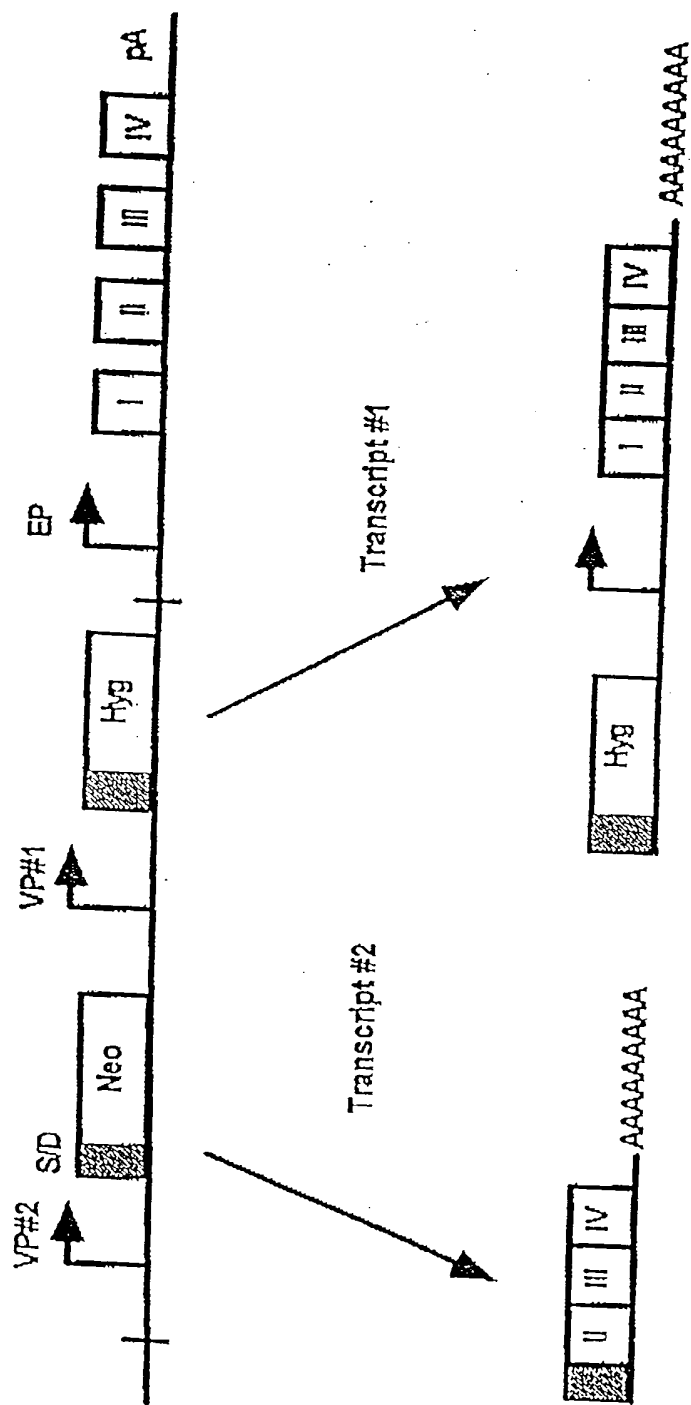


Figure 20A

009220-266E1560

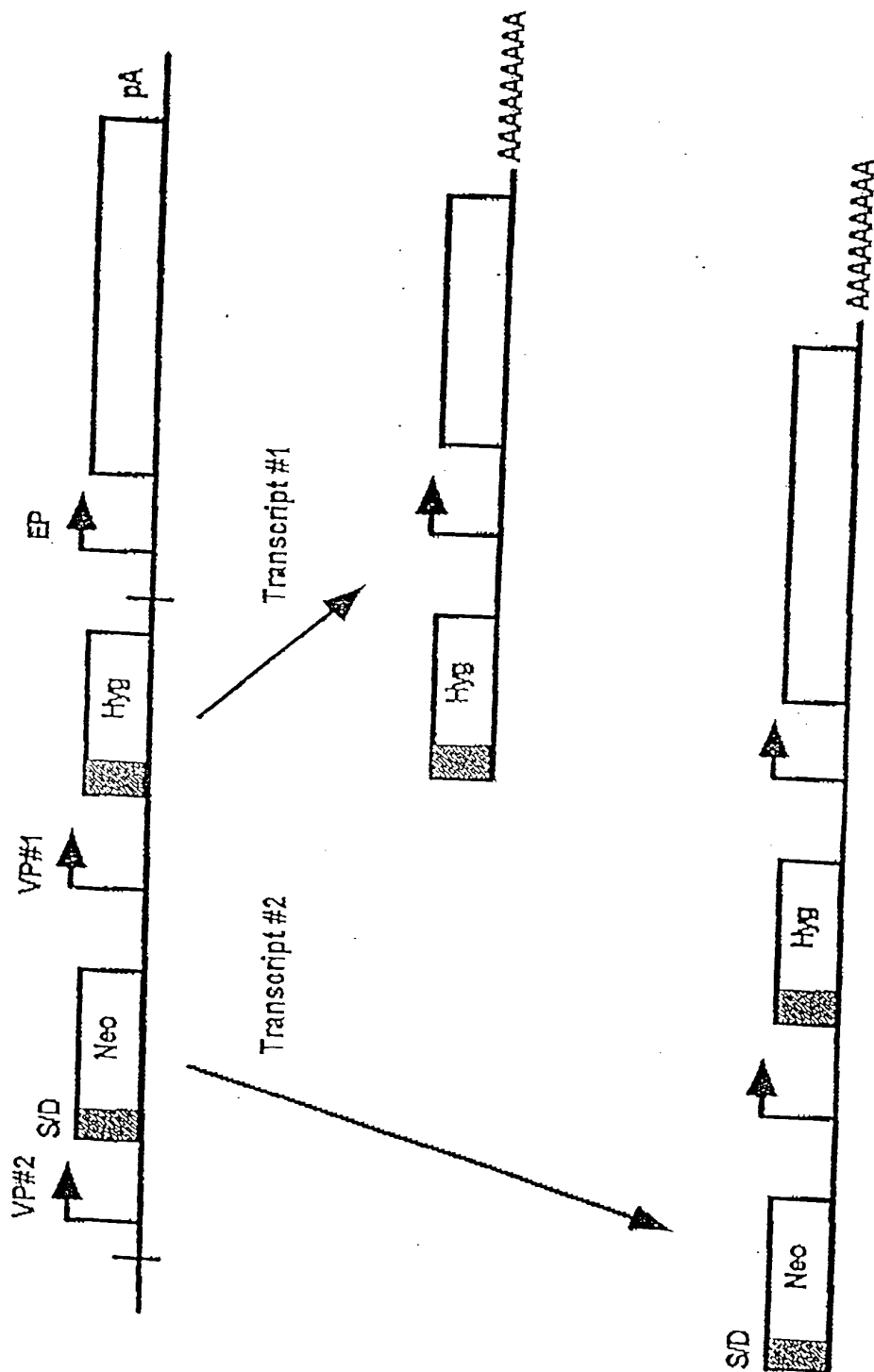


Figure 20B

009220-26567560

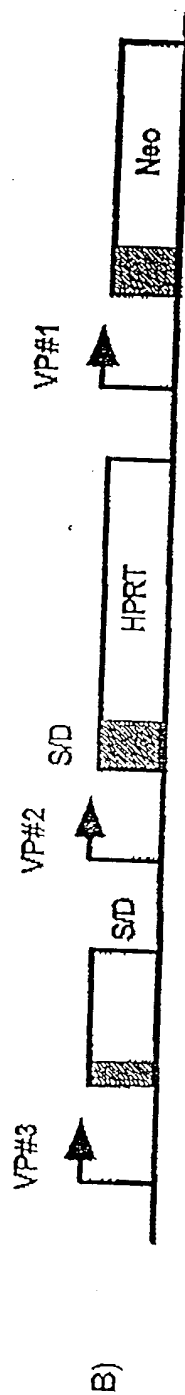
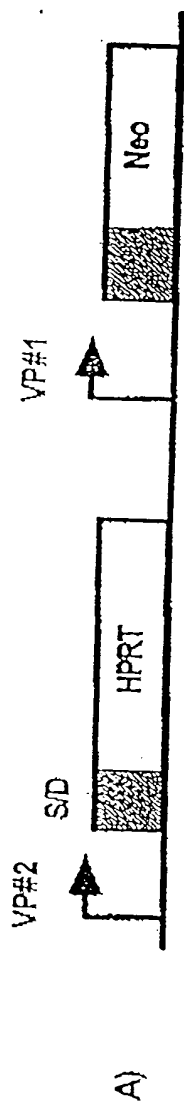


Figure 21

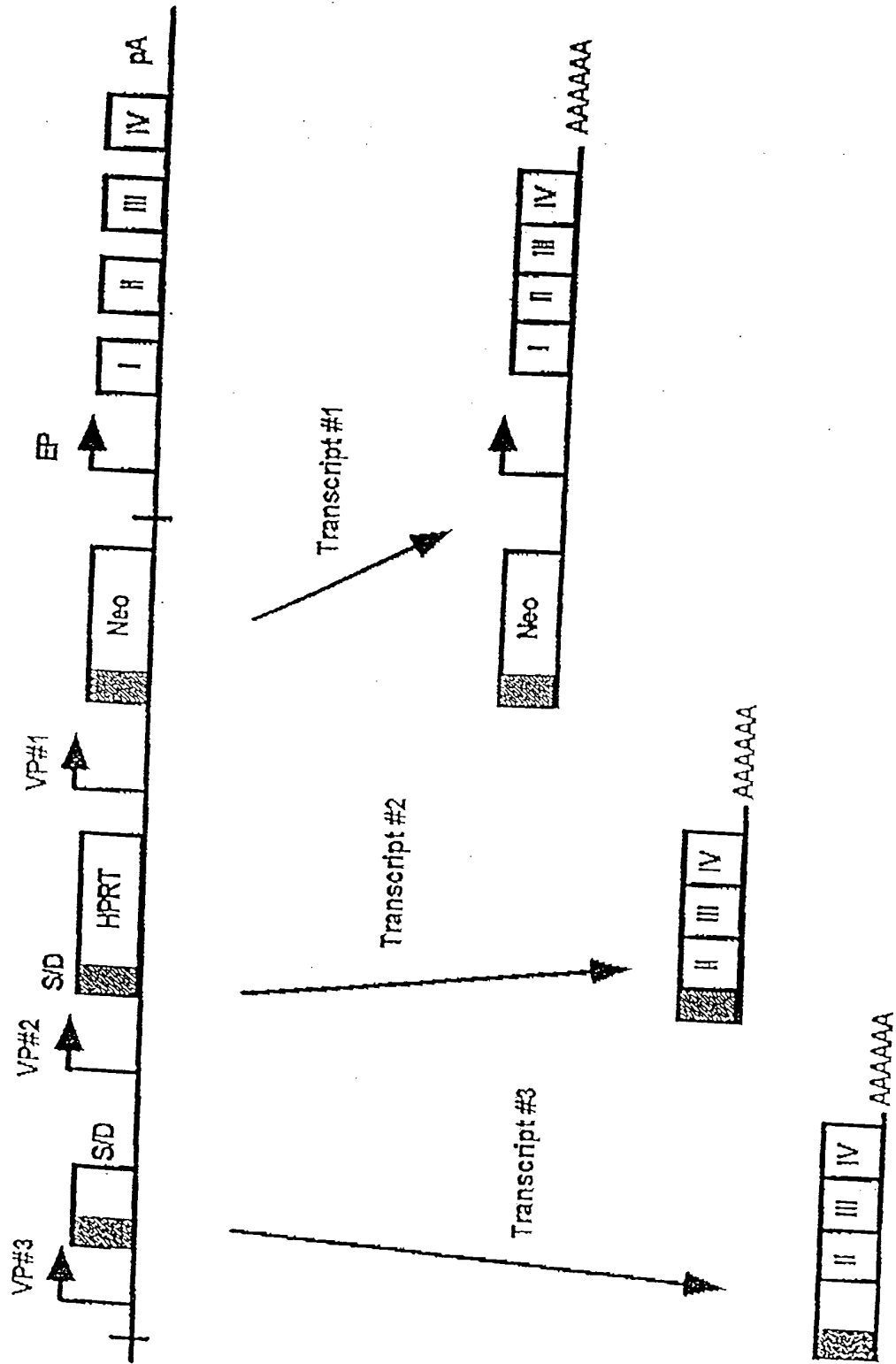
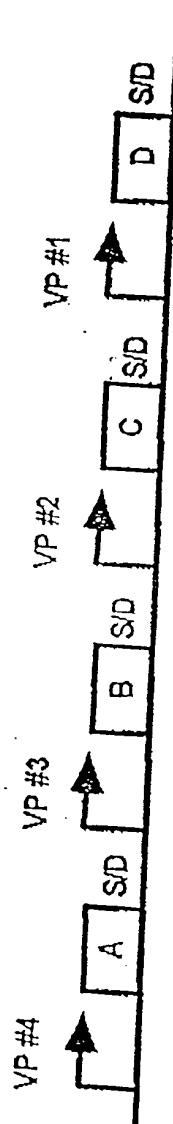


Figure 22

009220-266ET560



A) Exon A and Flanking Intron

5' UTR	ACCCAGGTGATG	Vector Intron
--------	--------------	---------------

B) Exon B and Flanking Intron

5' UTR	ACCATGCCAGGTGATG	Vector Intron
--------	------------------	---------------

C) Exon C and Flanking Intron

5' UTR	ACCATGCCAGGTGATG	Vector Intron
--------	------------------	---------------

D) Exon D and Flanking Intron

5' UTR	ACCATGGGCAGGTGATG	Vector Intron
--------	-------------------	---------------

Figure 23

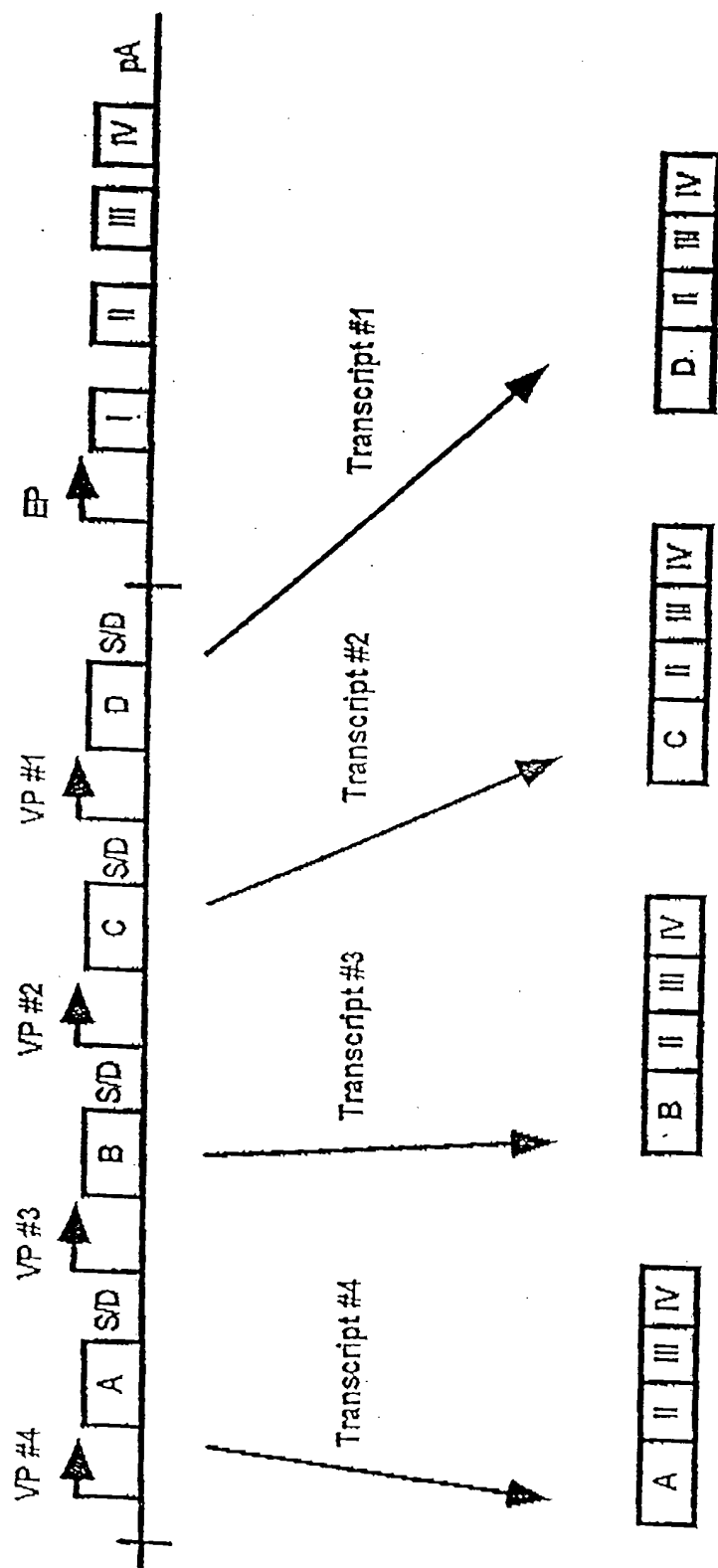


Figure 24

A

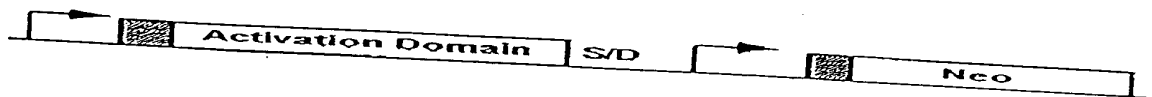


FIGURE 25

09513997 022600

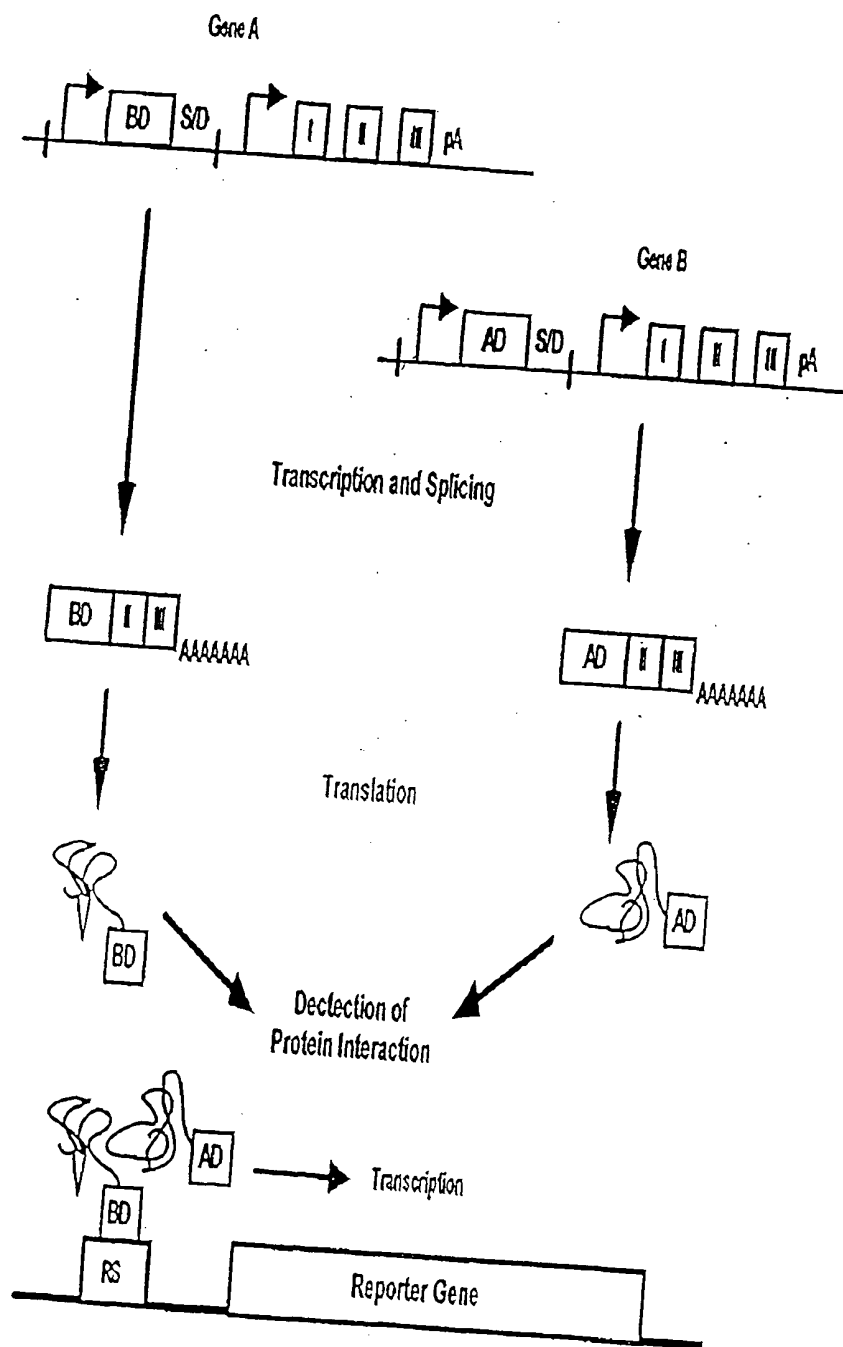


FIGURE 26

009220 6661560

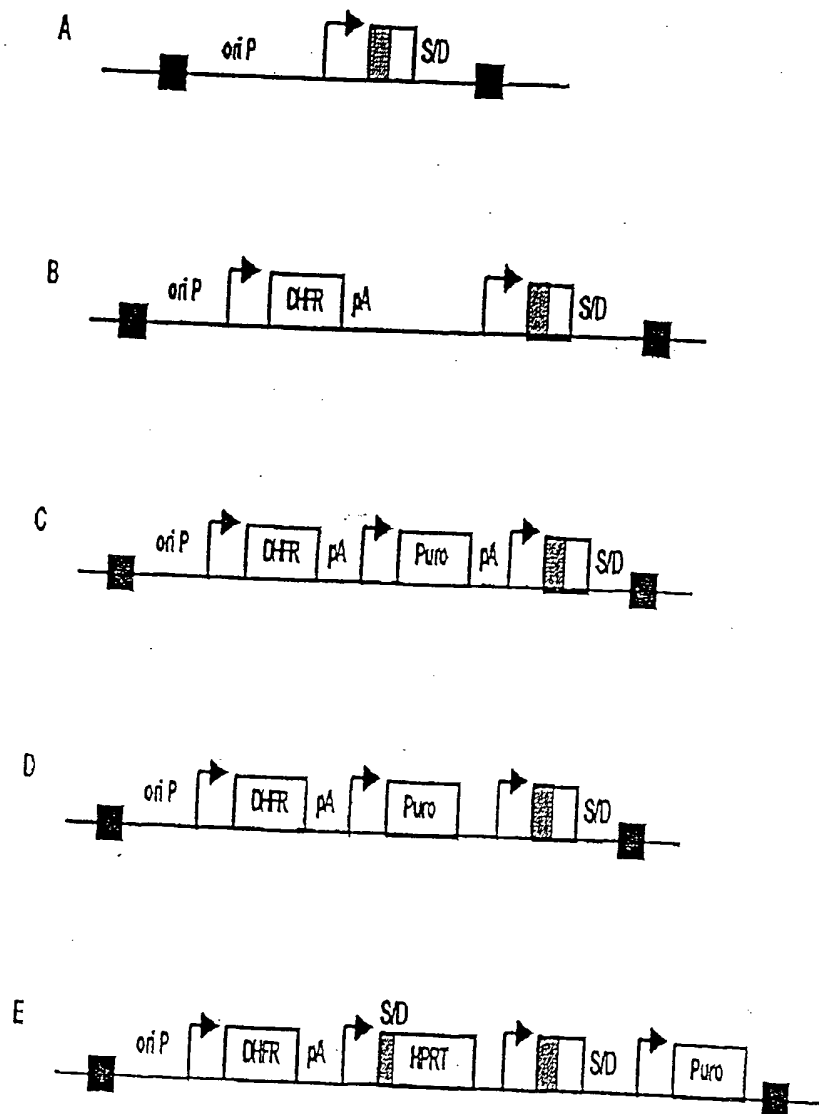


FIGURE 27

005600 4661660

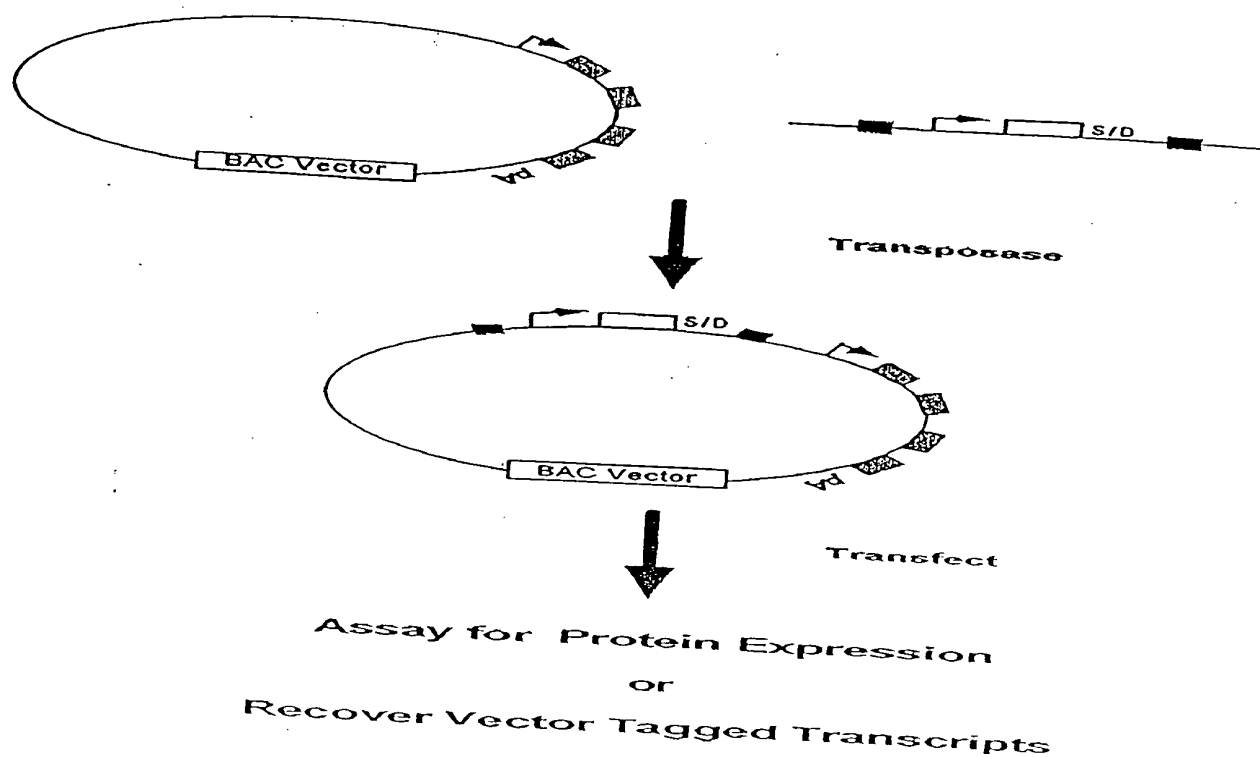


FIGURE 28

09513997.022600

CACCTAAATTGTAAGCGTTAATATTTTGTAAAATTCGCGTTAAATTTTGT
TAAATCAGCTCATTTTTAAACCAATAGGCCGAAATCGGCAAAATCCCTTAT
AAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAA
CAAGAGTCCACTATTAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAA
CCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAGTT
TTTTGGGGTCGAGGTGCCGTAAAGCACTAAATCGGAACCTAAAGGGAGC
CCCCGATTTAGAGCTTGACGGGGAAAGCCGGCGAACGTGGCGAGAAAGGA
AGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCAAGTGTAGCG
GTCACGCTGCGCGTAACCACCACACCCGCCGCGCTTAATGCGCCGCTACAG
GGCGCGTCCCATTGCGCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATC
GGTGCGGGCCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGTGCTG
CAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTCACGACGTTGTA
AAACGACGGCCAGTGAATTGTAATACGACTCACTATAGGGCGAATTGGGT
ACaattcaattcgtagcctcgaaattctaccggtaggggaggcgctttccaaggcagtcgtagcatgcgcttag
cagccccgctgggcacttggcgctacacaagtggcctctggcctcgcacacattccacatccaccggtaggcgccaacc
ggctccgcttcttggggcccttcgcgccaccttctactcctcccctagtcaggaagttccccccgccccgcanctcgcg
tcgtgcaggacgtgacaaatggaaatagcacgtctcactagtctcgtagatggacaagcaccgctgagcaatggagc
gggtaggccttggggcagcgcccaatagcagcttctccttcgcttctgggctcagaggctgnaaggggtgggtcc
gggggcggtcagggcggggtcagggcggggccccgaaggtcctccggaggccccggcattctgcacg
cttcaaaagcgacgtctgcgcgctgttctcctctcctcatctccggccttcgacctgcatccatctagatctcgagca
gctgaagcttaccatgaccgagtacaagcccacgggtgcgctcgccaccgcgacgacgtccccgggcccgtacgcac
cctcgccgcccgttcgcccactaccccgccacgcgcccacaccgtcgaccggaccgcccacatcgaggggtcaccga
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gttcccggctggccgagcaacagatggaaggcctcctggcgccgacccggcccaaggagccccgctggttccct
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ATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAAT
ATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGA
TTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGC
CCATATATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGC
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ATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTA
CGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCG
CCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCAG
TACATGACCTTACGGGACTTTCCCTACTTGGCAGTACATCTACGTATTAGTC
ATCGCTATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGA
TAGCGGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTTGACGTCAAT
GGGAGTTTGTGTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTGCTAAC
AACTGCGATCGCCCGCCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGG
TGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGA
AGCTTTATTGCGGTAGTTTATCACAGTTAAATTGCTAACGCAGTCAGTGCT
TCTGACACAACAGTCTCGAACTTAAGCTGCAGTGAAGTCTCTtaattaaccaccgctac
aggtgagtactcgGATCTGCTACCTTAAGagaggcctatctggccagtttagcagtcgaagaaagaagtttaa
GAGAGCCGAAACAAGCGCTCATGAGCCCGAAGTGGCGAGCCCGATCTTCC
CCATCGGTGATGTGCGGATATAGGCGCCAGCAACCGCACCTGTGGCGCC-

FIGURE 29A

009220-666550

GGTGATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTG
TGGTCGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGC
AGGACTGGGCGGCGGCCAAAGCGGTCCGACAGTGCTCCGAGAACGGGTGC
GCATAGAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAG
GCCGCCACCGCGGTGGAGCTCCAGCTTTTGTTCCTTTAGTGAGGGTTAAT
TTCGAGCTTGGCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTA
TCCGCTCACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAG
CCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCAC
TGCCCGCTTTCCAGTCGGGAAACCTGTCTGTGCCAGCTGCATTAATGAATCG
GCCAACGCGCGGGGAGAGGGCGGTTTGCCTATTGGGCGCTCTTCCGCTTCT
CGCTCACTGACTCGCTGCGCTCGGTCTGCTCGGCTGCGGCGAGCGGTATCAG
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AGATAACAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCG
ACCCTGCCGCTTACCGGATACCTGTCCGCTTTTCTCCCTTCGGGAAGCGTG
GCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTT
CGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACCCCGACCGCTGC
GCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTA
TCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGT
AGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG
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CACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGA
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ATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAA
TAGGGGTTCGCGCACATTTCCCCGAAAAGTGC

Figure 29B

009220 0661560

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTTCATTAGTTCATAGCCCATAT
ATGGAGTTCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG
CCCAACGACCCCCGCCCATTTGACGTCAATAATGACGTATGTTCCCATAGTA
ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
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ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG
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caccgtaacacgccacatcttgcaatataatgtgtagaaactgccggaatcgtcgtggtattcactccagagcgtatgaaa
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cggaattccggatgagcattcatcaggcgggcaagaatgtgaataaaggccgataaaacttgcttattttctttacgggt
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acgatgccattgggataatcaacgggtggtatatccagtgtttttctccattttagcttcttagctcctgaaaatctcgata
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gggtgcgggtgtgttcgtatatggaggtagtaagacctccctttacaacctaaggcgaggaaactgcccttgctattccaca
atgtcgtcttacaccattgagtcgtctccctttggaatggccccctggacccggccacaacctggcccgtaaggagtc
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Figure 30A

009220 022550

TTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAA
GATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAACTCA
CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC
CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCAT
CAGGAAATTGTAAGCGTTAATAATTCAAGAAGACTCGTCAAGAAGGCGAT
AGAAGGCGATGCGCTGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGG
AAGCGGTCAGCCCATTGCGCGCCAAGCTCTTCAGCAATATCACGGGTAGCC
AACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATG
AATCCAGAAAAGCGGCCATTTTCCACCATGATATTGCGCAAGCAGGCATCG
CCATGGGTACGACGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTG
GCGAACAGTTCGGCTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCC
TGATCGACAAGACCGGCTTCCATCCGAGTACGTGCTCGCTCGATGCGATGT
TTCGCTTGGTGGTCGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCG
CCGCATTGCATCAGCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAG
ATGACAGGAGATCCTGCCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTC
CCGCTTCAGTGACAACGTCGAGCACAGCTGCGCAAGGAACGCCCGTCGTG
GCCAGCCACGATAGCCGCGCTGCCTCGTCTTGCAAGTTCATTAGGGCACCG
GACAGGTGCGTCTTGACAAAAAGAACCGGGCGCCCCCTGCGCTGACAGCCG
GAACACGGCGGCATCAGAGCAGCCGATTGTCTGTTGTGCCCAGTCATAGCC
GAATAGCCTCTCCACCCAAGCGGGCCGAGAACCTGCGTGCAATCCATCTTG
TTCAATCATGCGAAACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCC
CCTGCGCCATCAGATCCTTGCGGCGAGAAAGCCATCCAGTTTACTTTGCA
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TTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTT
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GTTGAGTGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACGTGGA
CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCCAC

FIGURE 30C

09513997 022600

agccccctcctacctgcaataatcaggggtgactgtgtgcagctttgacgatggagtagatttgccctccctggttccacctatg
gtggaaggggctgccgagggtgatgacggagatgacggagatgaaggaggtgatggagatgaggggtgaggaag
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AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGA
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CTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCG
CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGTTCTGCT
CCAAGCTGGGCTGTGTGCACGAACCCCCCGTTACGCCGACCGCTGCGCCT
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GGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG
GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG
AGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTT-

FIGURE 31B

00513997 022600

TTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAA
GATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCA
CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC
CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCAT
CAGGAAATTGTAAGCGTTAATAATTGAGAAGAACTCGTCAAGAAGGCGAT
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AACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATG
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CCATGGGTACAGACGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTG
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GCCAGCCACGATAGCCGCGCTGCCTCGTCTTGCAAGTTCATTGAGGGCACC
GACAGGTGCGTCTTGACAAAAAGAACCGGGCGCCCCTGCGCTGACAGCCG
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TTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTT
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GCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGG
GTTGAGTGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACGTGGA
CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCAC

FIGURE 31C

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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
ATGGAGTTCGCGGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG
CCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTA
ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG
ACCTTACGGGACTTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG
GTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATGACGTCAATGGGAG
TTTGT TTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG
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GGTCTATATAAGCAGAGCTCGTTT TAGTGAACCGTCAGATCACTGAATTCTG
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Figure 32A

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CGCAAGGCGCGCCGGATCCACAGGACGGGTGTGGTCGCCATGATCGCGTA
GTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGACTGGGCGGCGGCCAA
AGCGGTGCGACAGTGCTCCGAGAACGGGTGCGCATAGAAATTGCATCAAC
GCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTGTCGAGCCATGTGAG
CAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCG
TTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCA
AGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCC
CCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGG
ATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCA
CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGT
GTGCACGAACCCCCGTTACGCCCCGACCGCTGCGCCTTATCCGGTAAGTAT
CGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCC
ACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGT-

Figure 32B

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TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTA
TCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTT
GATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTTCGAAGC
AGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTT
CTACGGGGTCTGACGCTCAGTGGAACGAAACTCACGTAAAGGGATTTTG
GTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTATCGGTGTGA
AATACCGCACAGATGCGTAAGGAGAAAAATACCGCATCAGGAAATTGTAAG
CGTTAATAATTCAAGAAGACTCGTCAAGAAGGCGATAGAAGGCGATGCGC
TGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGGAAGCGGTACGCCA
TTCGCCGCCAAGCTCTTCAGCAATATCACGGGTAGCCAACGCTATGTCCTG
ATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATGAATCCAGAAAAGC
GGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCGCCATGGGTACGA
CGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTGGCGAACAGTTCGG
CTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCCTGATCGACAAGAC
CGGCTTCCATCCGAGTACGTGCTCGCTCGATGCGATGTTTCGCTTGGTGGT
CGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCGCCGATTGCATCA
GCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATC
CTGCCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTCCCGCTTCAGTGAC
AACGTCGAGCACAGCTGCGCAAGGAACGCCCCTCGTGGCCAGCCACGATA
GCCGCGCTGCCTCGTCTTGCAAGTTTATTAGGGCACCGGACAGGTTCGGTCT
TGACAAAAAGAACC GGCGCCCTGCGCTGACAGCCGGAACACGGCGGCA
TCAGAGCAGCCGATTGTCTGTTGTGCCAGTCATAGCCGAATAGCCTCTCC
ACCCAAGCGGCCGAGAACCTGCGTGCAATCCATCTTGTTCAATCATGCGA
AACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCCCCTGCGCCATCAG
ATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCAGGGCTTGTC AAC
TTACCAGATAAAAGTGCTCATCATTGGAAAAcattcaattcgtcgacctcgaaattctaccggg
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gcgacctggtcatgaccgcaagcccgggtgcctgacggcgccccacgacccgcagcggccgaccgaaaggagcg
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GACTTTCCACACCCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTC
AGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTAAATTCGCG
TTAAATTTTTGTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGC
AAAATCCCTTATAAATCAAAAAGAAATAGACCGAGATAGGGTTGAGTGTTGTT
CCAGTTTGAACAAGAGTCCACTATTAAGAACGTGGACTCCAACGTCAAA
GGGCGAAAAACCGTCTATCAGGGCGATGGCCAC

FIGURE 32C

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
 TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
 CATTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
 ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
 ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCCGCCTGGCTGACCG
 CCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTA
 ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
 ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
 ATTGACGTCAATGACGGTAAATGGCCCCGCCTGGCATTATGCCCAGTACATG
 ACCTTACGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
 ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG
 GTTTGACTCACGGGGATTTCOAAGTCTCCACCCCATGACGTCAATGGGAG
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 CGATCGCCCCGCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA
 GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG
 ACGACCTACTGATTAACGGCCAGATCTAAGCTAGCTTCCTGAAAGATGAAG
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 AAGTGCTCCAAAGAAAAACCGAAGTGCGCCAAGTGTCTGAAGAACAACCTG
 GGAGTGTGCTACTCTCCCAAAACCAAAAGGTCTCCGCTGACTAGGGCACA
 TCTGACAGAAGTGGAATCAAGGCTAGAAAGACTGGAACAGCTATTTCTACT
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 ATTGAGACAGCATAGAATAAGTGCGACATCATCATCGGAAGAGAGTAGTA
 ACAAAGGTCAAAGACAGTTGACTGTATCGCCGGAATTCAGGTGAGTACTC
 GCTACCTTAAGgcctatctggccgtttaacagatgtgtataagagacagctctcttaaGGTAGCCTGTC
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FIGURE 33A

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aactgactgaaatgcctcaaatgttctttacgatgccattgggatatatcaacgggtggtatccagtgattttttctccatttt
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ACAGGACGGGTGTGGTTCGCCATGATCGCGTAGTCGATAGTGGCTCCAAGT
AGCGAAGCGAGCAGGACTGGGCGGGCGGCCAAAGCGGTTCGGACAGTGCTCC
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TGCTAGAGTCGAGATCTGTGCGAGCCATGTGAGCAAAAGGCCAGCAAAAGG
CCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCC
CCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAAC
CCGACAGGACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTG
CGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCC
CTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGT-

FIGURE 33B

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TCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTT
CAGCCCGACCGCTGCGCCTTATCCGGTAACATCGTCTTGAGTCCAACCCG
GTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAG
CAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTA
ACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGC
CAGTTACCTTCGGA AAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCA
CCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAA
AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTC
AGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGAGATTATCAAAA
AGGATCTTCACCTAGATCCTTTTATCGGTGTGAAATACCGCACAGATGCGT
AAGGAGAAAAATACCGCATCAGGAAATTGTAAGCGTTAATAATTCAGAAGA
ACTCGTCAAGAAGGCGATAGAAGGCGATGCGCTGCGAATCGGGAGCGGCG
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GCAATATCACGGGTAGCCAACGCTATGTCCTGATAGCGGTCCGCCACACCC
AGCCGGCCACAGTCGATGAATCCAGAAAAGCGGCCATTTTCCACCATGATA
TTCGGCAAGCAGGCATCGCCATGGGTACGACGAGATCCTCGCCGTCGGG
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CTCTTCGTCCAGATCATCCTGATCGACAAGACCGGCTTCCATCCGAGTACG
TGCTCGCTCGATGCGATGTTTCGCTTGGTGGTCGAATGGGCAGGTAGCCGG
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GGCAGGAGCAAGGTGAGATGACAGGAGATCCTGCCCGGCACTTCGCCCA
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TGCGTGCAATCCATCTTGTTCAATCATGCGAAACGATCCTCATCCTGTCTCT
TGATCAGAGCTTGATCCCTGCGCCATCAGATCCTTGCGCGCGAGAAAGCC
ATCCAGTTTACTTTGCAGGGCTTGTC AACCTTACCAGATAAAAGTGCTCAT
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cctgacgcccggccacgcccgcagcgccgaccgaaaggagcgacgaccccatgcatgagtgactgggcagg
taagtatcaaggttagcGGCCGCTAACCTGGTTGCTGACTAATTGAGATGCATGCTTT
GCATACTTCTGCCTGCTGGGGAGCCTGGGGACTTTCCACACCCTAACTGAC
ACACATTCCACAGCTGGTTCTTTCCGCCTCAGAAGGTACACAGGCGAAATT
GTAAGCGTTAATATTTTGTAAAAATTCGCGTTAAATTTTGTAAATCAGC-

Figure 33C

TCATTTTAAACCAATAGGCCGAAATCGGC AAAATCCCTTATAAAATCAAAA
GAATAGACCGAGATAGGGTTGAGTGTTGTTCCAGTTTGGAACAAGAGTCC
ACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATC
AGGGCGATGGCCAC

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FIGURE 33D

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tcaacgacaggagcacgatcatgcgcacccgtggccaggaccaacgctgcccagatgcgcccgtgcccgtgctgg
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Fig 25 34A

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Figure 34B

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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCCGCTGGCTGACCG
CCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTA
ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCCGCTGGCATTATGCCCAGTACATG
ACCTTACGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG
GTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATGACGTCAATGGGAG
TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG
CGATCGCCCCGCCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA
GGTCTATATAAGCAGAGCTcgtttagtaaccgtcagatcactgaattctgacgacctactgattaacggc
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CGGTGATGTCGGCGATATAGGCGCCAGCAACCGCACCTGTGGCGCCGGTG
ATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTGTGGT
CGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGA
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GCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGTCG
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GGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAA
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CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC
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FIGURE 35A

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ggtcttgacaaaaagaaccgggcgcccctgcgctgacagccggaacacggcgccatcagagcagccgattgtctgtgt
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CCAGGCTCCCCAGCAGGCAGAAAGTATGCAAAGCATGCATCTCAATTAGTCA
GCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAAGTATGCA
AAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCCTAACTCCGCC
CATCCCGCCCCCTAACTCCGCCAGTTCCGCCCATTTCTCCGCCCATGGCTG
ACTAATTTTTTTTTATTTATGCAGAGGCCGAGGCCGCCCTCGGCCCTGTGAGCT
ATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGCAAAAA
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GCTATTCGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGC
CGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGA
CCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGT
GGCTGGCCACGACGGGCGTTCCCTTGCGCAGCTGTGCTCGACGTTGTCACTG
AAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTC
CTGTCTCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCA
ATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGACCACCAA
GCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGT
CGATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAAC
TGTTCCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTG
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ATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCT
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AAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTAAAAATTCGCGTT
AAATTTTTGTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAA
AATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTTCC
AGTTTGGAAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAG
GGCGAAAAACCGTCTATCAGGGCGATGGCCAC

Figure 35B

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FIGURE 36

09513997-022600

GATCTTCAATATTGGCCATTAGCCATATTATTTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG
CCCAACGACCCCCGCCCATTGACGTCAATAATGACGTATGTTCCCATAGTA
ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG
ACCTTACGGGACTTTCCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG
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TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACCTG
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GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG
ACGACCTACTGATTAAACGGCCATAGAGGCCCTCCTGCAGAACTGTCTTAGTG
ACAACCTATCGATTTCACACATTATACGAGCCGATGTTAATTGTCAACAGC
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ACGACTCACTATAGGGCGACAGGTGAGTACTCGCTACCTTAAggcctatctgccc
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Figure 37A

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TTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAA
GATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCA
CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC
CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCAT
CAGGAAATTGTAAGCGTTAATAATTCAGAAGAACTCGTCAAGAAGGCGAT
AGAAGGCGATGCGCTGCGAATCGGGAGCGGGGATACCGTAAAGCACGAGG
AAGCGGTCAGCCCATTGCGCCGCAAGCTCTTCAGCAATATCACGGGTAGCC
AACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATG
AATCCAGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCG
CCATGGGTACGACGAGATCCTCGCCGTGGGGCATGCTCGCCTTGAGCCTG
GCGAACAGTTCGGCTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCC
TGATCGACAAGACCGGCTTCCATCCGAGTACGTGCTCGCTCGATGCGATGT
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CCGCTTCAGTGACAACGTCGAGCACAGCTGCGCAAGGAACGCCCGTCGTG
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GACAGGTGCGTCTTGACAAAAAGAACCGGGCGCCCCTGCGCTGACAGCCG
GAACACGGCGGCATCAGAGCAGCCGATTGTCTGTTGTGCCAGTCATAGCC
GAATAGCCTCTCCACCCAAGCGGCCGGAGAACCTGCGTGCAATCCATCTTG
TTCAATCATGCGAAACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCC
CCTGCGCCATCAGATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCA
GGGCTTGTC AACCTTACCAGATAAAAGTGCTCATCATTGGA AAAcattcaattcgt
cgacctcgaaattctaccgggtaggggaggcgcttttccaaggcagtcctggagcatgcgcttagcagccccgctgggc
acttggcgctacacaagtggcctctggcctcgacacattccacatccaccggtaggcgccaaccggctccgttcttggg
ggccccctcgcgccaccttctactctccccctagttaggaagttcccccccgccccgcanctcgctcgtgcaggacgtg
acaaatggaaatagcacgtctcactagtctcgtgcagatggacaagcaccgctgagcaatggagcgggtaggccttggg
gcagcggccaatagcagcttctccttctgcttctgggctcagaggctggnagggggtgggtccggggcgggctcag
gggcggggtcagggcgggggcgggcgccccgaaggtcctccggaggcccggtctgcagcttcaaaagcgacgt
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gagagcgtcgaagcggggcggtgttcgagatcgcccgcatggccgagttgagcggttccgggtggccgc
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gcgcccgaccgaaaggagcgacgaccccatgcatgatggcactgggcaggttaagtatcaaggttagcGGCCGC
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GGGGAGCCTGGGGACTTTCCACACCCTAACTGACACACATTCCACAGCTGG
TTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTT
GTTAAATTCGCGTTAAATTTTGTAAATCAGCTCATTTTTTAACCAATAG
GCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGG
GTTGAGTGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAGAACGTGGA
CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCAC

Figure 37C